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WORLDRADIO

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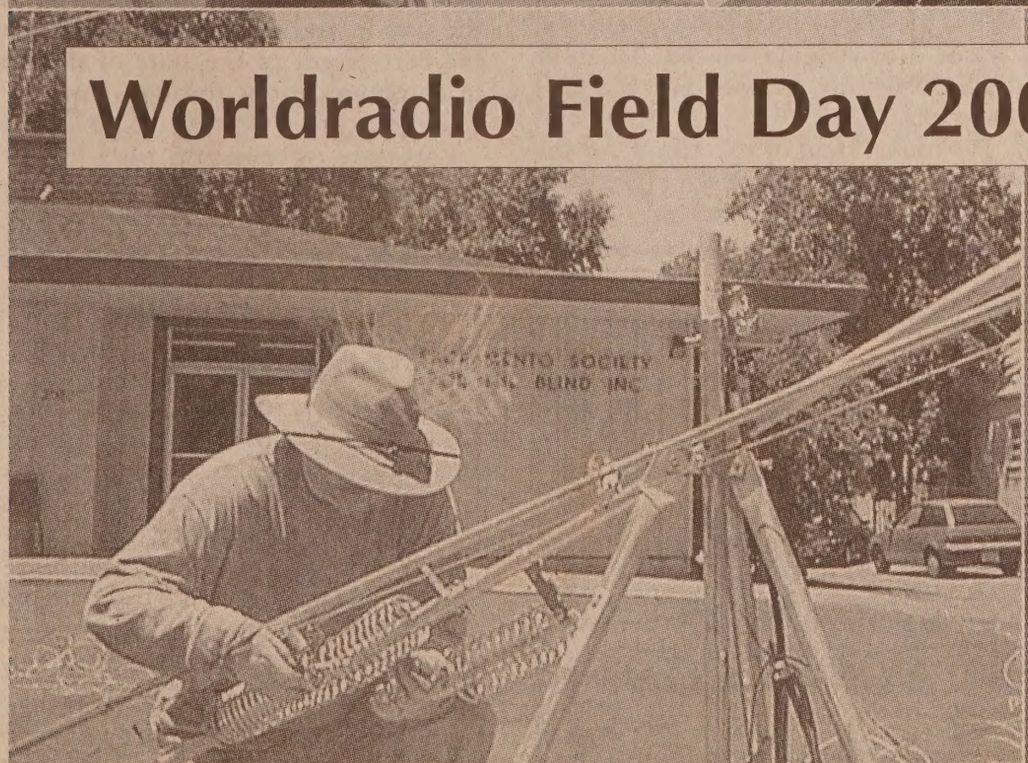
Worldradio Field Day 2000



Restructuring seems to be working

After the first seven weeks following the implementation of changes in the U.S. Amateur Radio service, statistics compiled by Fred Maia of the W5YI Report are very encouraging. According to W5YI there are now 7,490 more General Class license holders than there were on 31 May 1999. This is most likely due to pre March 1987 Technician Class Hams taking advantage of a no-test upgrade.

But the big surprise is the number of people who have gone to Extra from the various other license classes. That number is up by an amazing 7,051; or a little over 9%.

Not surprising is the small amount of change in the area of code-free Technician class Hams. They still remain the single largest group in Amateur Radio at 206,854. Thats 30% of all Hams holding an FCC license. But from 31 May 1999 to 31 May of 2000 their ranks only grew by 1,873.

It's still to early to even conjecture as to whether or not this means the codeless entry into Amateur Radio has lost its appeal. Some believe there will be another wave of code free newcomers as soon as the initial changes brought about by restructuring begin to settle down.

While it is very early on in the streamlining process, the figures accumulated between the 15 April implementation of restructuring and the 31 May cutoff date of Fred's report do seem to show some small but perceptible positive change. If the trend continues, the year 2000 could be the beginning of a good growth period for Amateur Radio in the U.S. — *W5YI, Newsline*

UK 6-meter activity heating up

The Sporadic-E season has, at last, started in earnest. On Saturday 27 May, 50MHz was wide open and many Italian stations were worked in the Italian Gargano contest. Long-haul DX was available to Africa and to North and South America. Some of the choice DX worked from the UK includes St. Helena, Mayotte, Reunion, the Falkland Islands and Greenland. In the late afternoon of the 27th, 144MHz was open to Italy and Eastern Europe — mainly Hungary, Romania and Yugoslavia. 50MHz was open at times on the 28th.

On 29 May, European signals were frequent and there was trans-Atlantic propagation to north-east American stations, notably W3CMP, at around 1400UTC, although the signals were weak. OY9JD, in the Faeroe Islands, was very strong on 50MHz for much of the afternoon and at 1606UTC, G3COJ was on 70MHz and worked him cross-band. — *G4NJH, Newsline*

KT4XA is 2000 Newsline Young Ham of the Year

Christopher Arthur, KT4XA, a 17-year-old from Russellville, Alabama, has been named Newsline Young Ham of the Year for 2000. That announcement came this week from Newsline producer and award administrator Bill Pasternak, WA6ITF. The award is jointly sponsored by the Los Angeles-based Amateur Radio Newsline, Yaesu USA, and CQ magazine.

As Young Ham of the Year, Christopher will receive, courtesy of Yaesu, an expense-paid trip to the 2000 Huntsville Hamfest and a gift of Yaesu equipment. CQ will treat him to a week in Spacecamp Huntsville in addition to a variety of CQ products. Newsline will present a plaque at the award ceremony.

A rising senior at Russellville High School, Christopher holds an Amateur Extra Class license and has been a Ham for four years. His numerous Amateur Radio achievements include founding the League of Young Radio Amateurs and the International Youth Communications Council, both dedicated to the advancement of youth in Amateur Radio. He's a member of the ARRL and was an Assistant Section Manager in 1998 and 1999.

Christopher is an member of the Franklin County Amateur Radio Emergency Service and has served as a net control station during training exercises and in actual emergencies. He's also involved in SKYWARN and has coordinated the Field Day efforts of the Franklin County Amateur Radio Club and the Tri-State Radio Group.

He also has served as net control of the Alabama Traffic Net M, started the Franklin County Ten Meter Net, and managed the annual Alabama Heart of Dixie QSO Party for the past two years.

The 2000 Newsline Young Ham of the Year Award will be presented 19 August at the Huntsville Hamfest. The award goes each year to an Amateur Radio operator aged 18 or younger who has provided outstanding service to the nation and/or the community for the betterment of the state of the art in communications through Amateur Radio.

For more information, visit http://www.arnewsline.org/. — *ARRL Letter*

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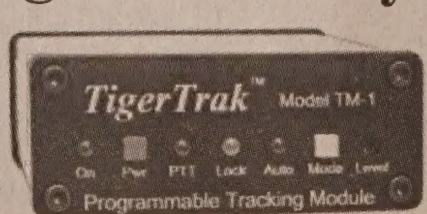

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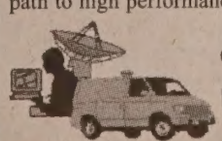

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Wichita amateurs participate in terrorist bombing drill

Hams in the Wichita, Kansas, area participated in a simulated terrorist bomb attack 15 June organized by Sedgwick County Disaster Management. Mike Afton, KØPY, president of the Intra-City UHF Club and local RACES HF officer, reports the incident simulated the release of a biological agent that could damage eyes, skin and airways by direct contact. Afton said that in addition to the many law enforcement, disaster management, paramedic, fire, U.S. Army,

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and FBI personnel, two Amateur Radio operators were stationed at the "bomb" site and another was in the county EOC. "Two large parking lots were taped off, and there were people lying on stretchers and others running around screaming and rubbing their eyes simulating being victims," Afton said. He says that ICUC member Mike Jennings, KBØBJS, who is also the Sedgwick County RACES ATV officer, drove the RACES emergency van to the site and operated one of the two ATV stations there. Afton deployed his own ATV-equipped vehicle. Using the club's ATV repeater and simplex frequencies, the two Hams worked side-by-side to maintain a direct, live link from the simulation site to the EOC, staffed by Roger Teachman, KDØME, who also was running the local RACES net. Afton says the club sees a role for ATV in storm-spotting as well. — *KØPY, ARRL Letter*

Rainscatter record?

On 17 June ARRL First Vice President Joel Harrison, W5ZN, and noted VHF-UHFer Al Ward, W5LUA, completed a 515 km (321 mile) rainscatter QSO on 10 GHz. The contact could be a record for that mode of propagation. Details are at http://www.ntms.org. Harrison says the trick was to keep a sharp eye on the weather radar, looking for very strong, appropriately positioned storm cells. "We have tried this a few times before," Harrison reports, adding that the pair once managed a 5.7 GHz rainscatter contact. "This time, everything fell into place!" Harrison says the longest distance he's aware of for a 10 GHz rainscatter QSO is 240 miles. — *ARRL Letter*

KB7UV gets Emmy

Andy Funk, KB7UV, along with several of his colleagues, received the first Technical Achievement Emmy awarded by the Atlanta Chapter of the National Academy of Television Arts and Sciences. Funk, who's Assistant News Operations Manager for Atlanta's FOX5 TV station, is responsible for the newsroom's live capability. As part of FOX5's live coverage of the 1999 Peachtree Road Race, the station devised a live "RunnerCam" operated by station personnel who actually ran in the race. The microwave antenna pointed as close to straight up as possible to a helicopter above, so the RunnerCam's signal could be relayed to the studio. The achievement was recognized 10 June at the Southern Regional Emmy Awards. — *ARRL Letter*

WORLDRADIO

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Editor's Log

We are pleased to announce the debut of the *Worldradio* Flight Demonstration Team... They are taxiing out to the runway for a formation takeoff in there shiny new Cessna 150's (hey, come on, you didn't think we would have something like F-14 Tomcats at $25 million a pop, did you?). As they firmly grasp the controls, their hands move to the throttle, and in unison, smoothly advance until the formation lifts off, in a precise maneuver. Communications are handled on four different frequencies allocated to Amateur Radio remote control. OK, so they're only using radio controlled models... We can dream, can't we? At the controls, our newest group of Lifetime subscibers;

- **John Fooks, N3PBS Canonsburg, PA**
- **Frank Flanagan, N3ZZN Philadelphia, PA**
- **Gerry Achtenberg, K9GRA Palos Heights, IL**
- **Capt. James Pees, KA7QYT Miami, OK**

Welcome aboard, gentlemen. You may proudly go through life with your heads held high, and you may brag to any and all that will listen, "I am a *Worldradio* Lifetime subscriber, how about you?"

I take this opportunity to welcome another Lifetime subscriber, previously overlooked and neglected. Welcome aboard:

- **Ron Vanke, K8YAH Westerville, OH**

Sorry about the oversight, Ron. I can only list new Lifetime subscribers if they're on the list I get from our subscription services company. You were left off the last list.. a grievous error. The responsible individual has been severely reprimanded.

•

This is being written on the morning of 19 June. I was gathering some tools out in the garage to bring to the office and turned on the computer and the HF rig. It was set on 15 Meters, as I had a QSO with 7L4XLA in Japan on PSK31 a couple of days ago. This QSO took place in the late afternoon. Much to my surprise, there were some very good PSK31 signals on 15 Meters this morning. One of the signals was BD4SA, calling CQ from China. Another was a Russian station in QSO with a station in Europe. DU8NE was there calling CQ.

The interesting part of this is the fact very little audio was present. That's the beauty of this new mode. You don't have to hear them to work 'em! All you have to do is see their signal!

I was using a 486 computer for PSK, but I really wanted to try the Digipan software. It won't run on a 486, so I went to the used computer store and plopped down some cash for a Pentium. What a difference! While running WinPSK on the 486, the little window showing CPU percentage in use was always at 90-95%. With the Pentium, it's running about 10-15%. Digipan runs just fine, now. I have since given the 486 to Armond, and as soon as his RIGblaster arrives in the mail, I'll have him up and running on this new mode.

Several amateurs I've talked to in the last couple of weeks have said PSK is going to replace RTTY. With the advantages this mode has over RTTY, it makes perfect sense to me.

•

Next Monday this issue will be going to the printer, and I will be headed out the door for two weeks away from the office. Sure, it's a vacation, but I will be carrying on the tradition of gathering information for you, our readers. I will be joining the fine folks who are volunteering for the American Lung Association's Big Ride Across America. I'll be meeting them in Missoula, Montana, and will be helping with communications until we reach Sheridan, Wyoming.

There are quite a few Hams participating, and I'll have a story and photographs in the next issue.

•

Field Day is a done deal, and the *Worldradio* staff did something different this year. We set up and operated from the offices of the Sacramento Society for the Blind. There are several amateurs on the staff and more are members of the Society. We had a joint operation, and this could become a tradition. They are a fine group, and we are pleased to be able to assist in getting them on the air for Field Day. You'll find photographs and a story in this issue.

•

I almost forgot to update the scoreboard! The score stands at WF6O 30, DX Ø. You guessed it — no replies to direct QSLs sent in September 1999, yet. I know, some of you are still saying be patient — they will come. Sure, they will. Maybe Santa will bring them this year. — WF6O

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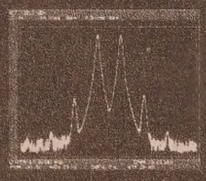

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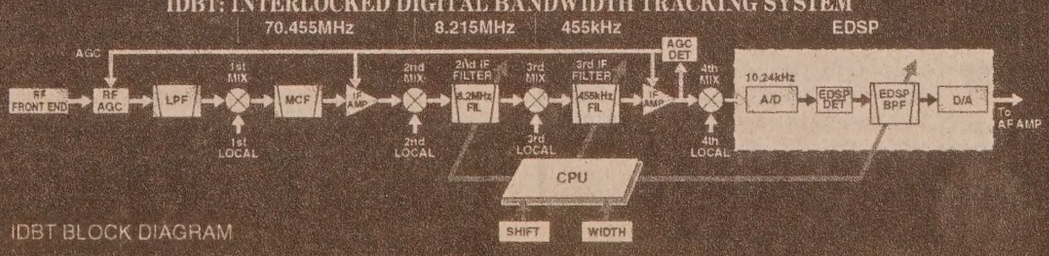

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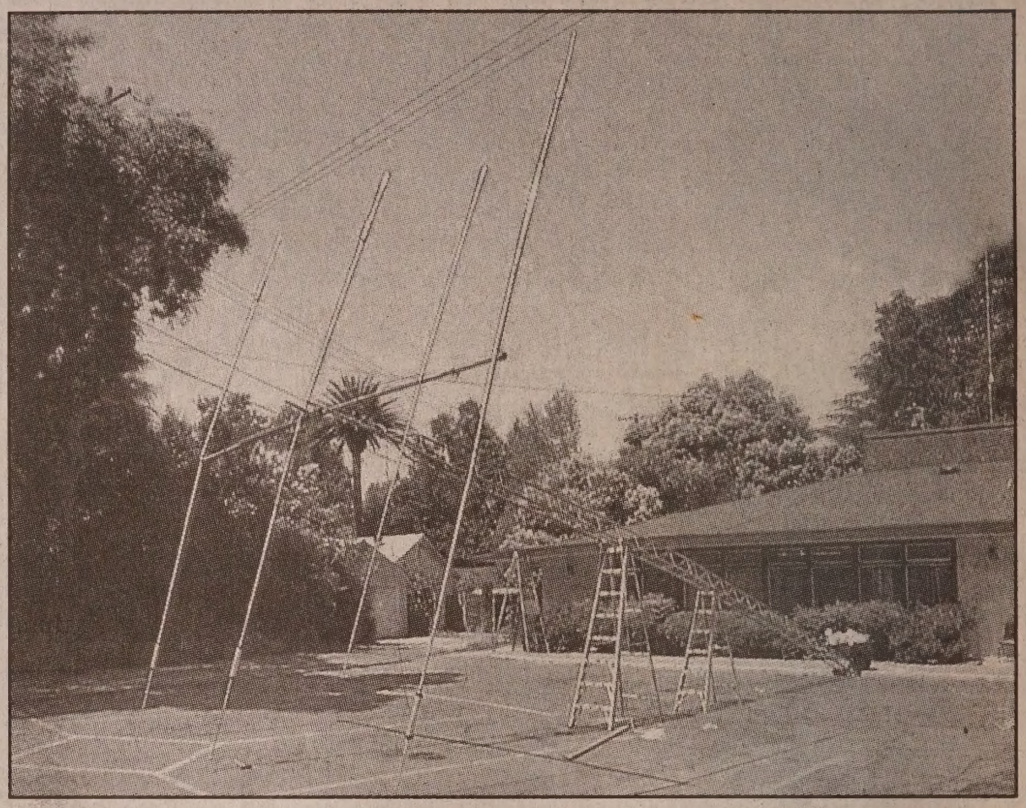
Worldradio Field Day 2000

Rather than venturing out to the middle of a small dirt airfield, as we have done for the last two years, the ***Worldradio*** Staff ARC set up for Field Day at the offices of the Sacramento Society for the Blind. (It was a pretty easy choice to make — heat, no shade and dust, or work in an air-conditioned office?) Since there are several blind amateurs in the Sacramento area, we took the opportunity to get them on the air for Amateur Radio's annual exercise in preparedness.

Setup commenced at noon on Friday, 23 June with Glen, W6RWR and me putting up dipoles for 15, 20 and 40 Meters. With power lines on three sides of the building, we had to orient them in a west to east direction — not ideal for contacts with the amateurs in the east, but adequate for contacts up and down the west coast. We were able to get the 15 and 20-meter dipoles up to a proper height, but we had a problem with the 40-meter dipole. It drooped down, and was only about 12 feet off the ground— not surprising when we were using the top of the building at one end for support (20 feet) and the other end supported by a tree (70 feet) about 250 feet away. We needed to keep the coax run as short as possible, so we had to make do.



After our first attemp at raising the tower and the antenna, we considered using vertical polarization instead of horizontal.

Ever wonder how much wire is inside of your screwdriver antenna — Clayton, K6GUY, shows how fragile these antennas can be!

Saturday morning started early with the assembly of a tower, and a four element beam — at 6 a.m. As usual, one critical item was neglected — U-bolts to hold the beam to the mast! A quick trip to the building supply store to obtain the necessary accessories and the beam and tower were ready to go up. After an aborted attempt to raise the tower, we removed one section to give us more control and lighter weight. Finally, the tower was up, and temporarily secured at 11:30 a.m. Rotating the beam was done by the tried and true piece of rope tied to the end of the boom — and walking the beam around to the direction wanted. The rope was secured to a "No Parking" sign in the alley next to the parking lot (thank you, City of Sacramento!). During the tower raising ceremony, we were assisted by every living body we could find. It certainly is not easy putting up an antenna and tower of that size using nothing but muscles and ropes! It's a good thing we have some young strong hands on the staff — Ashley, W6GUY and Clayton Guy, K6GUY were a BIG help in getting the antennas up and secured.

Unfortunately, we did have a serious causualty. We were raising the tower and beam, and a visitor walking around the parking lot tripped on one of the radials

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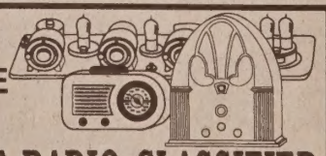

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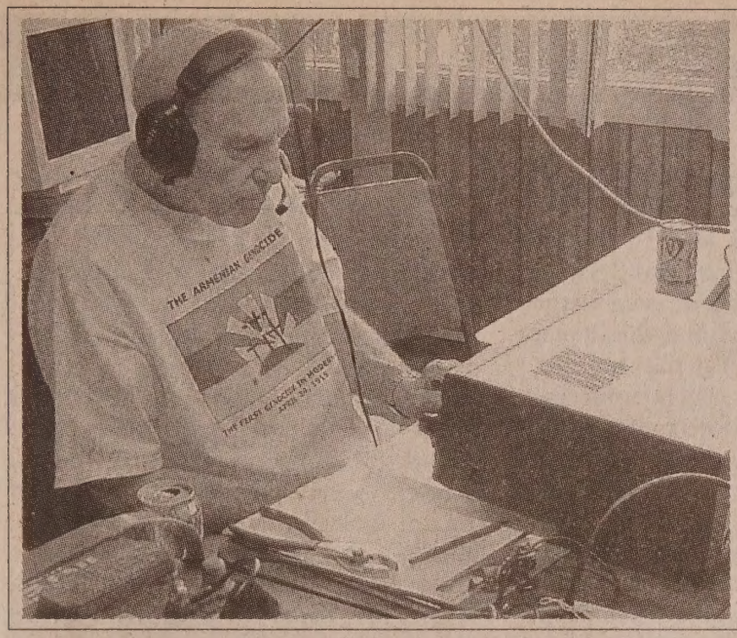


Peter Onnigan, W6QU, operating our SSB station.

for a screwdriver antenna. The antenna was pulled over and the PVC shattered when it struck the pavement.

We operated as 3A, with two stations on SSB and one on CW. The CW station was manned by a distinguished guest we brought in — Nancy Kott, WZ8C, our "Positively CW" columnist. Norm Brooks, K6FO, John Minke, N6JM and I also filled in on CW.

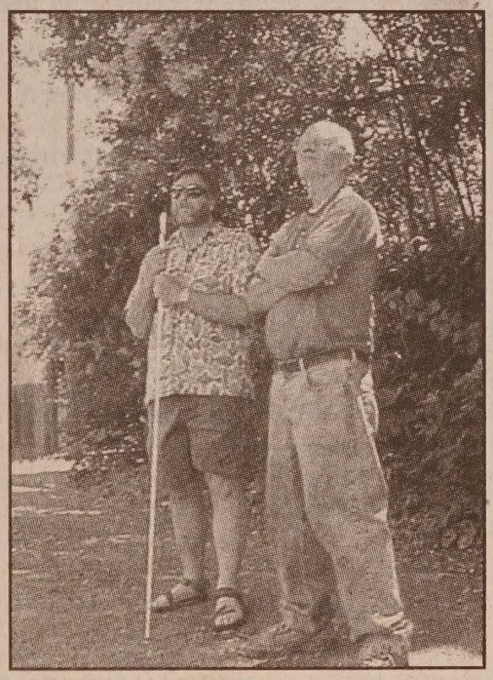
SSB stations were manned by Armond Noble, N6WR, Glen Rudesill, W6RWR, Peter Onnigan, W6QEU, Armand Bakalian, WB2ZEI and Bryan Bashin, N6DAL. Armand and Bryan are both blind, and operated Armand's Kenwood rig aided by a voice module to assist with tuning and frequency selection.

CW was a lot of fun, but all too soon we had contacted everyone on the 20-meter band, so a quick flip of the dial, and we made some contacts on PSK31. As the contacts were made, a gathering audience was standing behind me observing this new mode. Notes were taken, and questions were soon answered about PSK31. Yes, it is infectious — so look for at least four more stations on PSK31 in the near future. Anyone who has volunteered for the night shift on CW can tell you it gets a little hard to keep the eyes open, so PSK31 was an interesting way to stay awake and make contacts.

A great number of stations recognized the WR6WR call sign and sent greetings along with comments on how much they enjoy the magazine.

All too soon, (or not soon enough, depending on your point of view) the closing bell approaches. I was furiously seeking "that one more contact" to give us 1,000 points on CW, and at 17:59:50 I make that last contact! But, as usual, frustration sets in when the enter key is depressed and the dreaded "DUPE" flashes on the screen! Curses, foiled again!

Isn't it amazing how quickly everything comes down after the event? We spent hours putting everything in place, and when the event ended, we were out of there in an hour and a half! Must be the thought of a good meal and a shower that pushes one along to complete the tear-down as quickly as possible.



Bryan, N6DAL, and John, N6JM, stay cool in the shade, supervising the raising of the tower and beam.

A positive note about our operation — I sent press releases to the five television stations with news departments about our Field Day station. Three of the stations sent crews out to film us in action! *(Publicity chairpersons — drop me a line and I'll tell you how I did it!)* Not a bad showing by the local media.

There is always something to learn at Field Day. This was the first time in years we tried to put up a tower and a beam. Doing it the way we did, with muscles and rope, is not the best method to use. During our critique meeting we will be looking at an easier way to get that beam up in the air. Other items needing some serious attention are an operator schedule and some kind of checklist of items needed. Especially sunscreen!

Hope you were able to contact WR6WR. If you did — Thanks! If you didn't, well, there's always next year! — *Rick McCusker, WF6O*

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Petitions for reconsideration — part deux

As I sit here at the computer with the rig monitoring the 14.336 county hunter net frequency, it seems like the ionosphere must have used up all of its propagation for the CW WPX test, so (with nothing but the voiceless and codeless static hash in the background) it looks like it's time to pound out some prose for the ***Worldradio*** faithful. Of course, like most of you, I have a lot more fun working the JT's and 9M's on 10 Meters, or having a chat with a DX "neighbor", but here we are again — curled up with a magazine. It could be worse. At least I don't feel compelled to crank up the mobile rig in the Big Green Dragon every time I go to the golf course for a session of exercise (I walk) and humiliation (I flail) and higher mathematics (I keep score). When the electrons "up thar in the ether" are really plentiful, I often forgo other pursuits and hunker down on the radio, listening for the faint, quavery dits and dahs that portend exotic DX — or at least a QRP contact with Idaho. But for now, the voices and tones are sparse and the band is just a waterfall of white noise, cascading through the room, drowning out the sounds from the open window.

This is really Part II of the discussion of the five petitions for reconsideration that were filed in response to the FCC's Restructuring decision (Report and Order No. 99-412, issued 30 December 1999). In last month's column, the focus was on the minor, but very sensible, requests made by the ARRL. As you will recall, they want the FCC to continue keeping separate records on Technician licensees who have passed the Element 1A 5 wpm Morse code test. In addition, the ARRL requests that the FCC waive the 5 wpm code test (Element 1A) for anyone who ever passed it, even if the license was not renewed and the 2-year grace period for renewal has expired. While the first request may be unnecessary (at least from an enforcement point-of-view, as it is unlikely that a hoard of marauding no-code techs are going to invade HF-land), it seems unfair (or at least highly ironic) that former General, Advanced, and Extra Class licensees would have to retake a code test while drop-out Novice and Tech-Plus ticket holders could waltz back into the hobby without being able to tell the difference between Morse code and Morris the Cat. Ah, the injustice of it all! Well, anyway, I hope the FCC grants at least part of the ARRL petition because it:

(a) will do no harm

(b) may smooth the way for some re-entrants into the hobby, and

(c) will give the ARRL a positive outcome on at least one of its FCC petitions.

Putting minor cracks in the facade of restructuring aside, let's dive right into the two remaining petitions filed by Millard Qualls, K9DIY, and the triumvirate of Alan Wormser, N5LF; Fred Adsit, NY2V, and Mike Dinelli, N9BOR. This latter petition for partial reconsideration is referred to in some quarters as the "Wormser et al" petition. This is inelegant and uses legalese (the horror!), so here we will abbreviate it. Hmmmmm..Let's see... It might be called the "Worm-Ad-Din" petition. No, that reminds me of the green plate special I ate last week in a Korean restaurant. Perhaps it should be denominated the "Fists" petition, based on the fact that, although the three petitioners represent varied professions and locales, they are all members of the FISTS CW Club. Of course, they are also all Amateur Extra Class license holders, so maybe it should be the "Extra Fists" petition. Naw.... too much like the title of a Bruce Lee movie, but on the right track. Given the underlying purpose of the petition to reclaim the 20 wpm high ground for the

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2	KC2GNF	++	KG2RM	AB2JG
3	KB3FDW	++	KF3DX	AA3UW
4	KG4IDH	++	KV4FB	AF4YL
5	KD5KPD	++	KM5XB	AC5YQ
6	KG6BTF	++	KR6EP	AD6PU
7	KD7JKM	++	KK7WK	AC7GJ
8	KC8OTZ	++	KI8JX	AB8HX
9	KB9WNA	++	KG9TC	AB9KF
N. Marianas	WHØABN	AHØBC	KHØJF	NHØP
Guam	WH2AOB	AH2DN	KH2UT	++
Hawaii	WH6DGE	KH7ZY	AH6QA	WH7G
American Samoa	WH8ABI	KH8DO	AH8AI	AH8R
Alaska	WL7CVE	KLØXK	AL7RP	ALØV
Virgin Island	WP2AIM	NP2KQ	KP2CP	++
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Extra Class, and the fact that there are three petitioners (like the Pep Boys!!), we will just refer to this petition as the "Code Guys" petition.

Actually, to put the best foot forward from these two petitions, they both seek to increase the difficulty of the Extra Class written tests. Millard Qualls wants to toughen up the entry into the Top Gun Class ranks with "a rigorous 100 item written test" for Extras. K9DIY is my kind of guy. He was a high school teacher and is an Elmer. His petition is really pretty simple (based on his bottom-line motto, "The Extra Class License should be EXTRA!" He joins the ARRL and the Code Guys in requesting that the FCC maintain separate Tech and Tech Plus databases. His reasons track the others... ease of enforcement. Maybe the FCC will go along with this, if for no other reason than it is the one item that the petitioners seem to agree on and support. But it is the FCC that has the enforcement responsibility, and so it is really their problem. The crystal ball is cloudy on this one, folks. I don't know technically how the database is maintained. If it is just one field in an existing, on-going database, it's purely a matter of data-entry and not a big deal. If it is a separate database, then odds are that the FCC will see it as not worth the expense. I would wager that the outcome will depend on what the FCC sees as the best solution from a cost-benefit perspective. The other factors just don't add up to a change.

Back to the Qualls petition. As a lawyer, I can really appreciate the clever gambit with which he introduces his main objective (which is, of course, to keep a 20 wpm CW requirement for the Extra Class ticket). He begins: "There is, in the Report and Order, an assumption that increased Morse Code skills will not necessarily increase an individual's ability to contribute to the advancement of the radio art." The rest of the petition argues against this presumption, presumably on the theory that the FCC will change the Order if the assumption is shown to be wrong. Neat strategy. Only one teeny little problem — the FCC's report and order never made that assumption! The decision to reduce the code requirement to 5 wpm for all licenses was not based on any analysis of the relationship between CW speed and the advancement of the radio art.

Qualls presents what looks like a good argument when he suggests that the Amateur Extra Class license will no longer be accepted as the equivalent of the higher class license in some other countries because our code speed requirements are lower than the other country. He claims that will "erode International Relations." As an example, he points out that New Zealand requires its amateurs pass a 12 wpm test for their General class license. Qualls then suggests that American amateurs seeking to operate in New Zealand on DXpeditions will not be granted reciprocal operating privileges. This is just hogwash! Reciprocal license operating privileges are not simply based on code speed. If that were the case, the New Zealand Hams who have NZ General Class licenses could not have operated on HF at all in the U.S. (before 15 April 2000) under the current reciprocal licensing agreement. Why not? Because their General license is based on a 12 wpm code test and, until 15 April 2000, all U.S. HF privileges (with minor exceptions) required a 13 wpm code test. Therefore, the copy of the reciprocal licensing agreement that was provided to the FCC by Qualls with his petition (and shows the NZ General equivalent to U.S. General/Advanced/Extra) proves that his argument is baseless.

The bottom line on the Qualls petition is — good try, but basing an argument on facts that you made up (and can't prove or really support) only works when you are (a) in charge or (b) alone on a desert island. Lawyers do it all the time. They learned it from politicians, or vice versa.

And now to the Code Guys Petition. It is almost twice as long as the ARRL petition and is just as nicely laid out, with footnotes, correct lawyer-like legal citations, $200 an hour format, and everything. None of the petitioners claims to be a member of the bar, but their petition has extra clout because it looks like a professional job. Also, credit where credit is due, the petition always "requests" or "respectfully requests" the FCC to act favorably. Unlike the ARRL petition, the Code Guys never once tell the FCC that it "must" do anything. Extra points for not peeing on the judge's shoes. Unfortunately, just like in high school, it's possible to flunk the test even when you get the extra credit question correct.

Minor points aside, the Code Guys' petition is an all-out attack on the reduction in the 20 wpm Morse Code speed requirement for the Extra Class license, as well as a desire for a tougher written exam. Like the Qualls petition, it seeks to use the FCC's own words to dispute the FCC's conclusions. The quotes are accurate, even though most are out of context. But like all straw horses, the ease with which the petition defeats the opponent it has created reveals the weakness in the underlying assumptions. The first example is the most blatant. The Code Guys assert that the FCC's Order contradicts the Order's "stated and implied" goals. The first FCC goal the Order defied, according to the petition, was "to maintain the Amateur Radio Service as a fundamentally technical service" is taken from a sentence in the Report and Order which actually reads, "We are persuaded that because the amateur service is fundamentally a technical service, the emphasis on Morse Code proficiency as a licensing requirement does not comport with the basis and purpose of the service." Oooops... maybe another reference might have been better for "La Causa Dahditdah."

The Code Guys accuse the FCC of intentionally adopting a strategy of "reducing standards" over the past 20 years. It pontificates that the "low skill level of today's codeless Technicians is unacceptable." But the petition has no basis for either statement. The statement about Techs appears to be based solely on the difficulty of the written FCC exams. For those of you studying sophistry, that's known in the trade as a non sequitur. For the rest of us it is just BS reasoning. If you have a Tech licensee with a PhD in electronics, the fact that he passed a rather easy multiple-choice test to get the license tells you NOTHING about the person's "skill level."

The argument is rather sophisticated, so the basic flaw is harder to spot. The Code Guys use some clever statistical "factoids" to show how the tests have changed... (a) the proportion of technical questions in the Technician and General

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tests have decreased, (b) the cumulative number of questions needed for an applicant to pass each level has been reduced, and (c) the total size of the question pool has been reduced. All of these statements are TRUE! But these facts do not support the conclusions that (a) new Hams taking these exams are less technical or (b) new Hams taking these tests are less capable of advancing the amateur service in a technical way or any other way. This sort of logic is like relating a fact ("I was outside and something fell on my head") and then using that fact to support the conclusion that "the sky is falling."

So when anyone (including the Code Guys) argues that the Amateur Radio service is being "dumbed down" because the licenses are "easier" to obtain, that's just more pieces of the sky descending on us all (and it's brown and don't step in it). Don't tell that to all of the no-code Techs on the local repeater who make their living programming computers in the High Tech businesses that surround DC. Don't tell my 5 wpm Extra neighbor (who is a PhD scientist at N.I.H.) that he is dumbing down the Extra Class. By the way, the logic doesn't work the other way either. If the FCC were to take all of the Code Guys suggestions and really toughen up the written exams, it would NOT mean that the new licensees who run that gauntlet would be any smarter or have any more technical skills. It would mean they had passed a harder or longer or trickier test. Nothing more.

I'm not gonna spend a lot of space on the Code Guys' arguments for keeping the code speed at 20 wpm. They are just sad. They say 20 wpm is a barrier only to unmotivated individuals because the ARRL says "learning the Morse code is as easy as learning about 40 words in a foreign language." Es verdad! However the ARRL did NOT say that learning to receive code at 20 wpm was as easy as learning 40 foreign words. Ah Hah!! Have we learned "non sequitur"?

Most of what the Code Guys and all of the others who make arguments in favor of the code say about the Morse code and it being (a) useful, and (b) superior in some situations on HF, or (c) easy to learn are all TRUE. When the Code Guys' petition says, "knowledge of telegraphy is not obsolete knowledge", we can all stand and applaud. But the FCC has agreed and has maintained a requirement for Morse code. Just not fast enough for the Extra Elite.

The next step the Code Guys use in their 20 wpm Extra argument is tricky. They have to connect code SPEED somehow, even though we know it can't be done. They do it by creating the assumption that the only reason the FCC lowered the code speed was to eliminate the need for code waivers for disabled applicants. In fact, the FCC only said that elimination of waivers was a happy side benefit to eliminating all but the 5 wpm test. But they can then just leap to the conclusion that it would be fine for the disabled to all get General Class licenses. Then we can keep the Extra Class secure behind its 20 wpm speed moat. Bottom line on the 20 wpm code requirement — that boat has sailed and the port is closed. And all the King's horses and all the King's men cannot bring the Extra Class back inside the castle — even if they could use magic non-sequiturs.

That does it for the petitions for reconsideration. There is nothing in any of the petitions that is both (a) likely to be accepted by the FCC and (b) likely to have any impact on the vast majority of Hams and Amateur Radio license applicants. The requests to change the code speed requirement or make any changes in the written exams are not going anywhere. Even if the TechPlus database is retained or the FCC (in a wild moment of whimsy) gives Class A licensee credit for the Extra written, the ripples from these pebbles will not rock most of the canoes on the Amateur Radio lake.

It has stopped raining outside, and the XYL says the weather is perfect for working in the yard or painting the garage. The radio is still spewing fuzz, and the few voices I have heard sound like they are coming from the bottom of a barrel filled with angry bees. Well, if I can't work East Timor, maybe I can work on my golf swing.

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If you have ever made a presentation requesting support of any agency asking for a new repeater site, Dave Shiplett, AC5MU wants to hear from you. He is asking anyone who has such a presentation contact him. He will collect the various presentations and assemble some form of presentation package that can be tailored to specific situations. To contribute, send an e-mail to dsatti@hom.net. — *AC5MU, Newsline*

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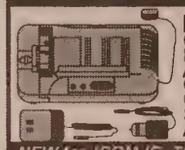

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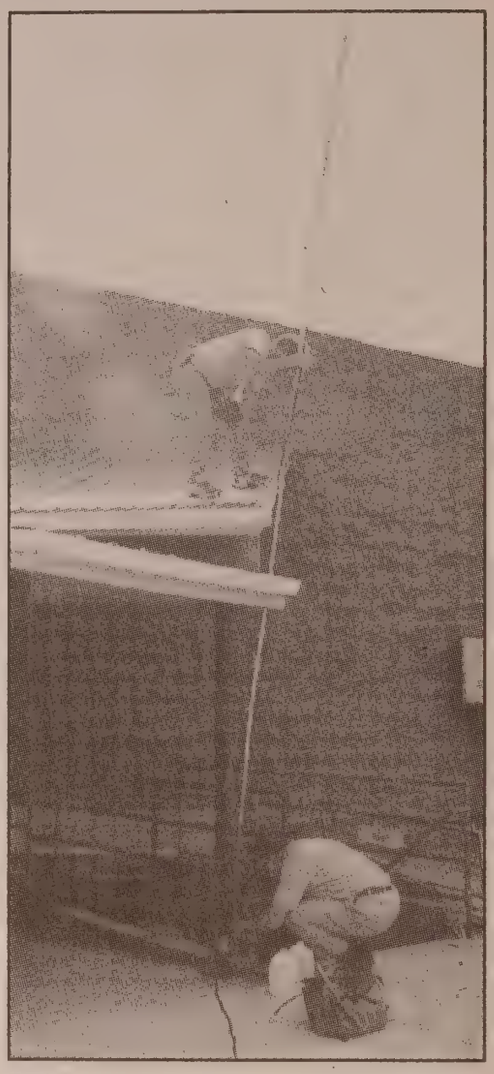
The controlled burn that got away — The Los Alamos fire

Bob Skaggs, KB5RX

I am writing this in the middle (time-wise) of the fire from one of the Red Cross Shelters for evacuees. The outpouring of offerings of food, shelter, assistance, and personal time that has come from the people who are the neighbors in the towns near Los Alamos is overwhelming. The fire was started as a controlled burn in the forest on the side of Cerro Grande on 04 May. The Park Service person who gave the okay looked at the conditions then and made a judgement call (albeit very poor judgement in the midst of the worst winter following the driest summer) to start the controlled burn. Spring winds in New Mexico are capricious and the next day, the fire got out of control. On Saturday the fire crews thought they had it under control. On Sunday it got out of control again and as of this writing more than 20,000 acres have burned along a front that is north-south on the Pajarito Plateau.

Pushed by winds in excess of 30 mph on Wednesday, the fire spread from 4,500 acres to more than 18,000 acres in a matter of five hours. The wind died down Wednesday evening but came up again early on Thursday with windspeed in excess of 50 mph and pushed the fire north to a place where the west side of the town of Espanola was threatened. Alerts were issued to the residents living on the west side and to residents of the Abiquiu Mesa area to be prepared to evacuate. As I write this, I can look out the west window of the Ben Lujan Middle School Gymnasium that is serving as one of the four Red Cross shelters for people who were driven out of Los Alamos by smoke and the threat of fire and see large Ponderosa pine going up in flames like Roman candles. The forest is tinder dry and the crown fire that is progressing through it now may burn for several more weeks like a similar fire several years ago on the other side of the Rio Grande Valley. As the fire began to spread on Sunday, several concerned Hams activated the Civil Defense headquarters building where the Los Alamos Amateur Radio Club has its operations room. They began to follow the fire and to shadow the Los Alamos Emergency Operations Center. Sunday and Monday, the fire continued to spread and intensify. By Tuesday the Los Alamos EOC and the Civil Defense HQ's were becoming the focal point of the operations. The Red Cross began preparations for evacuation shelters at some of the local schools. Radio traffic got pretty intense on the 145.19 repeater on Pajarito Mountain at the top of Ski Hill.



Robin DeVore, N5UUG, and Jack Shelburn, KD5CIX, erecting a temporary antenna at one of the Red Cross shelters.

Over the past winter, the Northern New Mexico Amateur Radio Club gathered donations and in January ordered a new Hamtronics repeater to replace the aging Spectrum Communications repeater that had lost its sensitivity. The only way to the top of Pajarito Mountain in winter is on the ski lifts, but this winter was so bad that the lifts never ran. It was not possible to exchange the new machine for the old one. On 27 April I took the repeater up to the top of the mountain and replaced the old one with the new one. Hams recognized the new machine immediately because of the quadruple tone BLEEP that followed the dropping of PTT. And they also noted the increased sensitivity.

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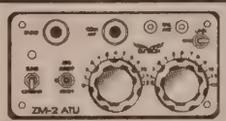

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For more than 20 years, a small group of amateurs has created and maintained a set of four or five solar powered repeaters on mountain tops in northcentral New Mexico. The repeaters are placed in a barrel whose lid is flush with the surface of the earth. The cavities are first placed in the barrel on top of a thin layer of dessicant. Then the repeater, which is mounted on a board, is placed on top of the plunger handles. The lid for the barrel just fits on top. Power is brought in through the side of the barrel with a moisture tight fitting from a battery box located adjacent to the repeater barrel and mounted similarly with its lid flush with the surface. The solar panel feeds the battery in parallel with the repeater. The 145.19 repeater was installed at this site on the very top of Pajarito Mountain in 1986 following a period of it being located at the east end of the mountain with the antenna on one of the ski lift towers. The installation is done with enough forethought that the repeater should survive most natural catastrophes. A forest fire was not one of these, but apparently the repeater has survived thus far. For the last four days the repeater has "taken a licking and kept on ticking." It may still meet its comeuppance but to survive 90 percent transmit, 10 percent receive on battery power (yes, this is correct and is just the reverse of normal operations), for more than five days (as of this writing), says that the installation was probably done with sufficient planning to deal with a threat like this.

Over the course of the fire buildup, the NM State EOC, the Los Alamos County EOC, the State Red Cross the Santa Fe County Red Cross, the Los Alamos County Red Cross, the evacuation shelters at White Rock Baptist Church and the White Rock LDS Church all came on line. On Wednesday afternoon at 1:15 p.m. the order to evacuate the town of Los Alamos was given by the LA County EOC.

Since White Rock was not threatened at that time, most of the residents of Los Alamos turned toward White Rock, a town of about 7,000 people. More than half of the residents of Los Alamos evacuated to White Rock doubling the size in a period of about three hours. THEN, the real problem came. The evacuation from Los Alamos was planned and was executed in a very orderly fashion. There was NO PLAN to evacuate White Rock so at about 1:30 a.m. Thursday the residents of White Rock were totally surprised when they were told to evacuate. There is only one road out of town. This quickly turned into gridlock requiring about three hours just to move the seven miles down off the hill toward the evacuation shelters in the valley and in Santa Fe.

The evacuation shelters were well below capacity the first night, but during the day on Thursday, as word got out that there were temporary beds and the food would be provided through the American Red Cross Disaster Relief program, people started streaming in. The nearest and principle shelters to Los Alamos were located at the Cities of Gold Casino and the Ben Lujan Middle School Gymnasium in Pojoaque. The two others were located at the Santa Fe High School Gymnasium and the Espanola High School Gymnasium. By midday Friday, the two principle shelters were entertaining approximately 500 people for meals, support services, and U.S. Mail. All the while, the 145.19 net operated in an orderly fashion without a Net Control Station passing health and welfare traffic, logistics support traffic, finding lost persons, coordinating personnel among the various stations that were on the air, and keeping the flow of information at a high level so that people felt that their life was not totally disrupted. As briefings were given at different locations, one station would take traffic for the station that was temporarily off the air. Then the responsibility would be reversed.

Early into the crisis, the telephone systems became totally saturated. There were three cell phone systems and the US West hardline system in the area. All of them failed. No dial tones, constant busy signals, trunk busy signals, incoming calls getting turned away,

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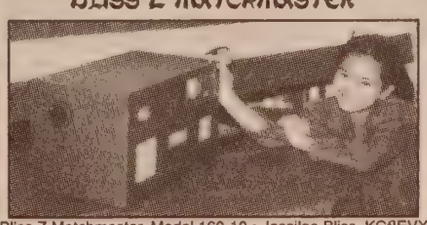

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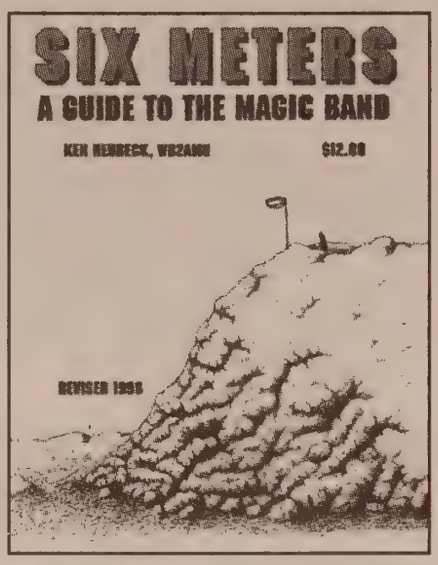

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International Guard Sergeant Noorlander nets Red Cross radios on an operational frequency.

outgoing calls unable to be completed — total failure. At one point one of the EOC's lost all hardline communications and called for staffing from amateurs with three on duty for each shift. Because of the "party line" operation of the 145.19 command net, all sites on line were able to keep up with what was transpiring and thus avoided the repetitive passing of messages thus tying the lines up even more. The phone lines did keep on working but were frustrating to many because of the delays and non-completion signals they got.

Early on into the crisis, the amateurs were pretty much ignored and did their thing in shadowing the Operations Centers. As time went on and the Op Centers realized the traffic that got through was carried by Amateur Radio, the amateurs got more and more involved. Every amateur, regardless of age or gender, had a chance to contribute some time to the effort. While we thought we might run out of resources, the amateurs seemed to extract energy from their responsibilities, go away and rejuventate themselves and come back for more assignments. At one point someone suggested to the TV media that they look at how the underlying glue that was holding this whole operation together was being provided by the Amateur Radio operators and their equipment and ingenuity. When the TV contacted the radio operators, they found that it was not a glamorous or a heart-rending story so they passed us by. Nobody seemed to mind as the job of being a communicator at one of the many locations kept a person so busy that there was little time to worry about anything but the job at hand. In fact, it was hard to eat a decent meal because the food got cold while the amateur was helping out with some task. Thursday, Friday and Saturday were very heavy days on the repeater. There were an estimated 7,200 voice messages passed per day over a 24 hour period. The 145.19 repeater handled most of this traffic because it was the wide area coverage repeater. Some local traffic was placed on the 146.88 repeater in Los Alamos because it covers the town quite well. The animal control people who were rescuing dogs, cats, ferrets, iguanas, birds, and other strange pets were placed on this net. When the Red Cross Disaster Evaluation Team arrived their traffic was handled on this net. Some traffic was directed over to the 146.82 repeater on Tesuque Peak on the east side of the Rio Grande valley, but the receiver was not working well and the people nearest it in downtown Santa Fe could not access it well. Glorieta Baptist Assembly is behind some hills which denied access to the 145.19 repeater, so their traffic came in to the Santa Fe area via 147.30 on Elk Mountain which was linked to a 442.825 repeater in Santa Fe.

The generosity of the citizens of NM and the surrounding areas seems unbounded. In the kitchen and the hallways of the Ben Lujan gymnasium, at one time, there were about 100 tons of food and supplies including clothes and toys. This situation was duplicated at the other shelters as well. As time went on the Red Cross had to ask that no more food or soft goods be sent to the area. They had no place to store it.

By Sunday afternoon the fire had split into two components. The north part was burning furiously out of control, but the south tongue near the town of White Rock was well enough under control that the residents were allowed to re-enter their town. At this time residents of Los Alamos whose homes were damaged or destroyed were given bus tours of the burned out area by the National Guard.

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They were placed on buses, driven around the burned out neighborhoods slowly so they could view the damage, served a lunch prepared by the cooks at Ben Lujan Red Cross shelter, and then returned to their respective Red Cross shelters. Social workers and other crisis management personnel accompanied each bus to minister to those who were emotionally overwhelmed by the damage they viewed, and the loss of their homes. Most people got out of their homes with the clothes on their back and the pictures and other mementos that they could put in their cars.

Beginning on Sunday evening, as the residents of White Rock were allowed to return to their homes and bring along with them some of their guests from Los Alamos, the Red Cross began to shut down the shelters. First to be closed was the Cities of Gold casino which had been the hub of activity for so many days. The Red Cross had set up its field headquarters there at the counter that served as the bingo callers station during regular operations. Espanola residents were also allowed to return home.

Roadblocks were established at the Totavi gasoline station to prevent citizens from returning to their homes and to control entry of people who were bringing supplies to the firefighters in the Los Alamos area. This roadblock was one of the many stations manned by Amateur Radio operators. On Sunday this roadblock was moved closer to Los Alamos and split into two components requiring additional Hams to be on station. Permission was obtained through the Los Alamos EOC and passed via Amateur Radio to these roadblocks to admit entry to the town site. As the perimeter was drawn closer to the town of Los Alamos, these roadblocks moved with them and served as the link to maintain orderly reentry.

By Tuesday the Public Information Center, was set up near the eastern most fire station (FS 6) at the entry into the town of Los Alamos. A radio amateur was placed at this station to shadow the Center director at all times to pass traffic. The telephone system remained overloaded and it was often very difficult to get through to anyone at the Center, thus Hams were required to shadow the key personnel in order to get vital traffic to them.

During the crisis, we kept records of the number of involved amateurs and the locations of the radio stations. Eighty four licensed radio amateurs volunteered to serve at one station or another.

Ultimately we had more than 14 stations operating on the 145.19 frequency. Weeven had one person who had just passed his examination but had not received an FCC license who served. Two unlicensed people helped with communications. The Amateur Radio net served to tie together the State EOC, the Los Alamos County EOC, W5PDO, (the Civil Defense Amateur Radio station) the temporary evacuation shelters in White Rock, the more permanent Red Cross evacuation shelters in four locations along with the State Red Cross HQ's in Albuquerque, and later the roadblocks, and the Public Information Center, the ARC Disaster Assessment Teams, and the Los Alamos Service Center together. Since the three cellular networks and the one wireline telephone network very quickly became overloaded and were not able to accept calls, the Amateur Radio network on 145.19 was able to "provide the glue" that kept the entire operation together and running smoothly for the last two weeks.

At one time, the repeater trustee considered going to a command net with a net control station. But to the credit of all those amateurs who were on the network, everything remained orderly and it was not necessary to set up a net control station. While people occassionally stepped on each others transmissions, most of the traffic was conducted with a great deal of courtesy, and in the long run, eliminating the net control actually cut down on the amount of traffic that would have been on the net. Every once in a while a station in the excitement would call several times for another station, but a word from one of the more experienced operators would encourage them to call once, give their own call sign, and wait. FM is quite clear and if the called station was monitoring, it would answer immediately. During the heat of the fire and the high levels of traffic, everyone was encouraged to eliminate radio station call signs and just use tactical call signs.

This has been the biggest fire ever to burn in NM since the USFS began keeping records of fires. In addition, there have been three other major fires that burned at the same time leading to the phrase used by most of the TV stations, "New Mexico Burning." Amateur Radio has served one of its charter tasks well in this event by providing emergency communications to a wide variety of entities and will be remembered by those who were displaced as helping to keep things together in a time of major crisis here in northern New Mexico.

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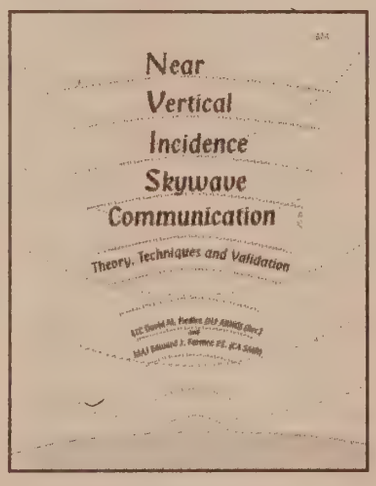

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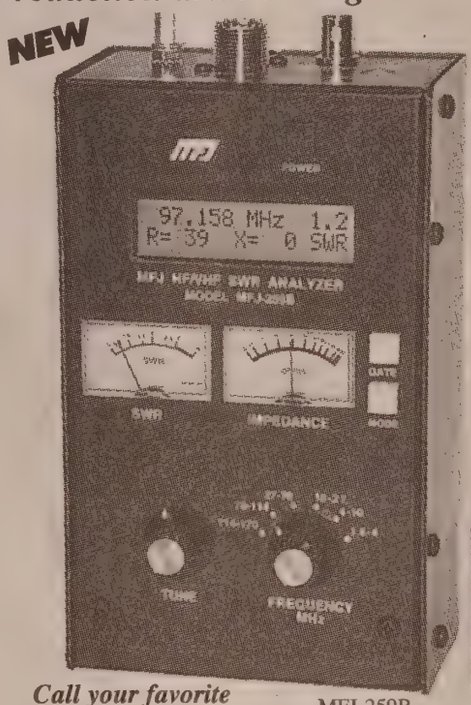

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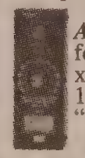

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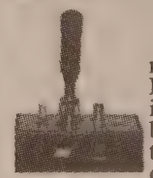

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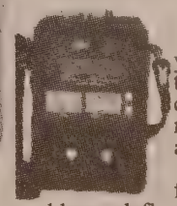

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Operate 10 bands: 75/80, 40, 30, 20, 17, 15, 12, 10, 6 and 2 Meters with one antenna Separate full size radiators . . . End loading . . . Elevated top feed . . . Low Radiation Angle . . . Very wide bandwidth . . . Highest performance no ground vertical ever . . .

Operate 10 bands -- 75/80, 40, 30, 20, 17, 15, 12, 10, 6 and 2 Meters with this MFJ-1798 vertical antenna and get *full size performance* with no ground or radials!

Full size performance gives high efficiency for more power radiated. Results? Stronger signals and more Q-5 QSOs.

Full size performance also gives you exceptionally wide bandwidths so you can use more of your hard earned frequencies.

Full size performance is achieved using separate full size radiators for 2-20 Meters and highly efficient end loading for 30, 40, 75/80 Meters.

Get very low radiation angle for exciting DX, automatic bandswitching, omni-directional coverage, low SWR. Handles 1500 Watts PEP SSB.

MFJ's unique *Elevated Top Feed*™ elevates the feedpoint *all the way to the top* of the antenna. It puts the maximum radiation point high up in the clear where it does the most good -- your signal gets out even if you're ground mounted.

It's easy to tune because adjusting one band has minimum effect on the resonant frequencies of other bands.

MFJ-1798
$289.95
Ship Code F

Self-supporting and just 20 feet tall, the MFJ-1798 mounts easily from ground level to tower top -- small lots, backyards, apartments, condos, roofs, tower mounts.

Separate Full Size Radiators

Separate *full size* quarter wave radiators are used on 20, 17, 15, 12, 10 and 2 Meters. On 6 Meters, the 17 Meter radiator becomes a 3/4 wave radiator.

The active radiator works as a stub to decouple everything beyond it. *In phase* antenna current flows in all parallel radiators.

This forms a very large equivalent radiator and gives you incredible bandwidths.

Radiator stubs provide automatic bandswitching -- absolutely *no loss* due to loading coils or traps.

End Loading

On 30, 40, 75/80 Meters, end loading -- the most efficient form of loading -- gives you highly efficient performance, excellent bandwidth, low angle radiation and automatic bandswitching.

MFJ's unique *Frequency Adaptive L-Network*™ provides automatic impedance matching for lowest SWR on these low bands.

Tuning to your favorite part of these bands is simple and is done at the *bottom* of the antenna.

No Ground or Radials Needed

You don't need a ground or radials because an effective counterpoise that's 12 feet across gives you *excellent* ground isolation.

You can mount it from ground level to roof top and get awesome performance.

No Feedline Radiation to Waste Power

The feedline is decoupled and isolated from the antenna with MFJ's exclusive *AirCore*™ high power current balun. It's wound with *Teflon*® coax and can't saturate, no matter how high your power.

Built to Last

Incredibly strong solid fiberglass rod and large diameter 6061 T-6 aircraft strength aluminum tubing is in the main structure.

Efficient high-Q coils are wound on tough *low loss* fiberglass forms using highly weather resistant *Teflon*® covered wire.

MFJ's Super High-Q Loop™ Antennas

MFJ-1786
$379.95
Ship Code F

MFJ's *tiny* 36 inch diameter loop antenna lets you operate 10 through 30 MHz *continuously* -- including the WARC bands!

Ideal for limited space -- apartments, small lots, motor homes, attics, or mobile homes.

Enjoy both DX and local contacts mounted vertically. Get both low angle radiation for excellent DX and high angle radiation for local, close-in contacts. Handles 150 watts.

Super easy-to-use! Only MFJ's super remote control has *Auto Band Selection*™. It auto-tunes to desired band, then beeps to let you know. No control cable is needed.

Fast/slow tune buttons and built-in two range Cross-Needle SWR/Wattmeter lets you quickly tune to your exact frequency.

All welded construction, no mechanical joints, welded butterfly capacitor with no rotating contacts, large 1.050 inch diameter round radiator -- not a lossy thin flat-strip -- *gives you highest possible efficiency.*

Each plate in MFJ's tuning capacitor is welded for low loss and polished to prevent high voltage arcing, welded to the radiator, has nylon bearing, anti-backlash mechanism, limit switches, continuous no-step DC motor -- gives smooth precision tuning.

Heavy duty thick ABS plastic housing has ultraviolet inhibitor protection.

***NEW!* MFJ-1788, $429.95.** Same as MFJ-1786 but covers 40 Meters-15 Meters continuous. Includes super remote control.

MFJ-1782, $339.95. Like MFJ-1786 but control has only fast/slow tune buttons.

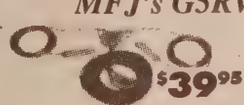
MFJ-1780, $249.95. *Box Fan* Portable Loop is about the same size (2x2 foot) as a box fan, complete with handle. Covers 14-30 MHz. Control has fast/slow tunes.

MFJ Portable Antenna

MFJ-1621 **$89.95** Ship Code A

MFJ-1621 lets you operate in most any electrically free area -- apartment, campsite, hotel, the beach, etc. DXCC, WAZ, WAC, WAS have been won with MFJ-1621! Work 40, 30, 20, 17, 15, 12 and 10 Meters with a telescopic whip that extends to 54 inches. Mounted on a sturdy 6x3x6 inch cabinet. Built-in antenna tuner, field strength meter, and 50 feet of RG-58 coax cable. Handles 200 Watts.

MFJ's G5RV Antenna



MFJ-1778, Ship Code A
$39.95

Covers all bands, 160-10 Meters with antenna tuner. 102 feet long, shorter than 80 Meter dipole. Use as inverted vee or sloper to be more compact. Use on 160 Meters as Marconi with tuner and ground. Handles full legal limit power. Add coax feedline and some rope or other nonconductor and you're *on the air!*

MFJ halfwave vertical

6 bands: 40, 20, 15, 10, 6, 2 Meters . . . No radials or ground needed

MFJ-1796
$209.95
Ship Code F

Only 12 feet high and has a tiny 24 inch footprint! Mount anywhere -- ground level to tower top -- apartments,small lots, trailers. Perfect for vacations, field day, DXpedition, camping.

Efficient end-loading, no lossy traps. Entire length is always radiating. Full size halfwave on 2/6 Meters. High power *air-wound* choke balun eliminates feedline radiation. Adjusting 1 band has minimum effect on others.

MFJ-1792, $169.95. Full size 1/4 wave radiator for 40 Meters. 33 feet, handles 1500 Watts PEP. Requires guying and radials.

MFJ-1793, $189.95. Like MFJ-1792 but has full size 20 Meter 1/4 wave also.

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Cheap DXpedition — V47X

Jim Walter, WT9U

I've been an avid contester for over five years now. Several years ago there was a note from Sean, KX9X, on the *CQ* Contest reflector wondering if there were any active contesters in Elkhart. I responded and found out Sean was moving to town. We soon became friends. Shortly after we got acquainted Sean and an old friend from Illinois left for the FRC Contest station, V26B on Antigua in the Caribbean for the ARRL DX contest. When he got back from his week of travels the stories of pile-ups, etc., were simply amazing. I'd had a taste of being DX having operating aeronautical mobile from Africa during the early 90s where I was flying for a humanitarian organization. Now that I'd heard Sean's stories, this was something I had to do!

Of course there's the financial reality to all this. With air fare, station rental, etc., this could easily turn into a $2,000+ adventure. Even with another operator splitting the station rental it would still be quite expensive. Realistically it was going to take some planning, saving, etc.

Then in August of 1998 I was offered the opportunity of a lifetime and went to work for FedEx. As an airline pilot I was now entitled to space available travel in the cockpit jumpseat — not only on FedEx aircraft but with most American air carriers as well. Suddenly a contest DXpedition was within reach. When I bid my vacation times for 2000 not only did I include Spring break, Thanksgiving, Christmas and New Year's, but I threw a couple of contest weekends into the mix as well. When the vacation bids were awarded I got my first choice of Spring break and also the week of ARRL DX CW contest.

I operated more than a third of the contest standing up — it helped to keep me awake.

I decided that I'd like to find somewhere in Puerto Rico to operate from. I could get there on the company airplane easily and there would be no hassle getting licensed as I could just sign WT9U/KP4. I started contacting all the Puerto Rican stations I'd worked in the NAQP and Sweepstakes contests. No one knew of any station that was available.

I contacted my friend Paul, K9PG. Paul has operated from locations all over the world and is well connected. He knew some people on PR and thought he could help me out. After some checking, Paul struck out too. He did say Mike, K9NW, had operated from Karl, V44NK's, place on Nevis and I could probably operate from there if I liked.

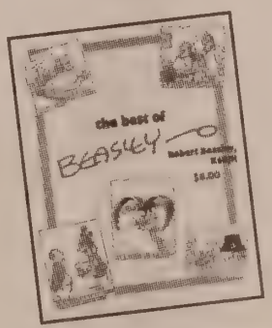
Paul contacted Karl who was in the U.S. for a Millennium bash in Chicago. He was one of several hundred people invited from every country on the face of the earth to attend and was representing the island of Nevis. Paul and Karl called via conference call the first week of January and Karl invited me to come down and operate. He said I could stay at his place and just sleep in the shack as he had a bed there. Karl said he knew all the St. Kitts/Nevis telecom guys and would start working on my license when he got back to the islands.

Karl's station had a TS-450 set up for SSB but no CW filters. He had a Cushcraft A3 tribander at 40 ft. fixed on the U.S. but wanted to get a rotor to give him a bit more flexibility. Since I wasn't going to have any airfare or hotel expenses to speak of I started looking for these items to help pay my way.

I sent Karl a fax with my U.S. license, copy of my passport and driver's license along with the application for license that he'd sent. He sent me a fax a week later stating that he'd been able to secure the call V47X for me.

I contacted numerous friends seeking their advice regarding the contest. Should I do a single band effort, all band, low power, high power, what? I'd initially been leaning towards a single band effort, probably 15 Meters. Sean, KX9X, suggested single band for several reasons. One, you didn't have to worry about being on the wrong band. Two, one could get some sleep during the contest. He also reminded me that there was no low power category for single band so make sure and use the amp. Paul, K9PG, on the other hand, said there wasn't any question, All Band LP. After talking to Mike, K9NW, who'd operated from there I made the decision that all band low power was the way to go.

I asked my wife, Nancy, to help me pack. She's a master packer and can get more in a suitcase than anyone I know. Managed to get the TS440, climbing



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When I learned that Karl had a broken rotator I located one in the States, rebuilt it and installed in time for the contest.

belt, spare coax, 160 sloper, diskettes, etc., and some clothes into two small carry-on bags. I finally left the house at 10 p.m. in the evening fairly exhausted.

We arrived on San Juan at 9:15 Atlantic Standard Time (AST). I found the feeder pilots and asked if it was possible to hitch a ride to St. Kitts. They said because they flew the single engine Caravan that the company wouldn't allow them to take any jumpseaters. Franco, one of the Captains, offered to give me a lift over to the terminal and hook me up with one of the commuter airlines. Next thing I knew was in the terminal building with jumpseat pass in hand.

We boarded the flight to St. Kitts at 1:15 p.m. It was nice to be underway again. When I arrived at Bassaterre, St. Kitts, Karl was waiting for me just outside customs. I cleared the radio through without any problem by showing them a copy of my Nevis license.

Karl Sage, V44NK, is the number two man at the local cable company. They are in the process of wiring the island with fiber optics and hooking everyone up to the Internet. Karl's been working in St. Kitts now for four years.

Karl then took me by one of the job sites and then over to the office where I met his boss. Around 4:30 we headed to his apartment. From there we picked up one of the senior guys from Customs, Terry Campbell, also a Ham, and went out to eat. Finally at 7 pm. we were on the ferry and headed to Nevis.

Once off the boat we were met by Carl Tyson, a friend of Karl's. Carl runs a local computer repair shop whose services were indispensable the following day. We dropped the gear off at the house and then headed out to take Carl home, stopping to get groceries and some liquid refreshment on the way.

Once back at the shack Karl checked me out on the station. The antennas were a A3 @ 40 ft. and an HF2V vertical just hooked to a ground rod. I then installed TR Log onto the main computer and hooked the interfaces that I'd built up.

At 0309Z I sent my first CQ as V47X on 80 Meters and was called by K3WA. Things weren't 100% right with the computer interface. The computer would talk to the radio but the radio wouldn't talk back. I had the interface hooked to the accessory plug on the Kenwood DSP that was installed. Additionally, the color monitor was only playing in B&W in DOS mode.

At 0320Z I called CQ on 40 Meters and the fun began. I operated for 25 minutes and logged 29 contacts. After about an hour break to sort out the computer and make plans for the morning I went back to 40 Meters. I couldn't believe the pileup of European stations. Suddenly I wasn't sleepy anymore. I finally pulled the plug at 3:30 in the morning. Total operating time had been around 3 hours and there were 235 QSOs in the log.

Thursday morning we got up around 9 a.m. Karl fixed a huge breakfast. During the night I'd disconnected the DSP and hooked the computer interface right into the side of the radio. That fixed the problem with the computer and rig talking to each other. I had played around a bit with the computer and suddenly, for no aparent reason the monitor was

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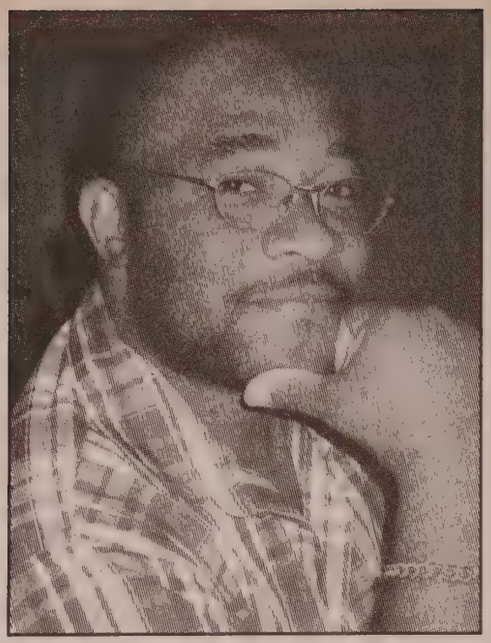

Karl Sage, V44NK, was my host and loaned the use of his station during my stay in Nevis.

playing in color as it was supposed to. Feeling pretty good about that I switched the computer on to check a couple of things and suddenly the monitor went dead. After a brief call to Carl we were off to fetch him. Carl trouble-shot the monitor and found the video card was bad. He left to find another card and Karl and I started the antenna work.

The job for the day was to get the mast and rotor installed on the tower, get the 160 sloper up and tune the HF2V for CW. The A3 was attached to the pointy top of the Rohn 25 tower. The rotor wire had already been run so it was just a matter of hooking up the control box and rotor. By the time we got the rotor and sloper antenna installed we'd killed 4 hours. I was pretty well beat from being in the sun all afternoon. I took a shower and then, finally, Carl showed up with a video board. With the computer working fine I took the time to install TR on the laptop computer and double check the ports, etc., so that I had a backup during the contest should Murphy show up. I also took a couple of minutes and installed the 500 Hz. CW filter. Twelve quick QSOs in 7 minutes on 10 Meters proved that it was working OK.

At 0251Z I sat down to the radio and the fun began again. I'd been told that being in a DX location would add 10 dB to my signal. In the next 3 hours and 24 minutes I would add 300 QSOs to the log.

Karl showed up around 5 p.m. and wanted me to go with him for a drive in the country. We headed out to Ken Jarvis' place, V44KJ. Ken's in the process of building a huge house on the opposite side of the island. From there he looks directly at Europe and the U.S. He plans to rent the location to contest expedition teams. I'd thought about taking a nap but really wanted to see the country side a bit and needed to spend some time being sociable. We were back to the shack about 30 minutes prior to the contest. After a quick sardine sandwich it was time to get started.

Several people had given me advice before heading down regarding the contest. Paul, K9PG, said to always be on the highest band that was open and had a good QSO rate. He also suggested moving the hard multipliers like MT, NE, DE and some of the Canadian provinces to other bands when I worked them. Chad, WE9V, said find a place to call CQ and do that. He's of the Field of Dreams thinking: work them and they (multipliers) will come.

Since 15 was open I decided to start there. After 10 quick QSOs in six minutes it was down to 20 Meters. I'd figured I'd probably have to move to 40 Meters at the end of the first hour but that was not the case. The stations just kept coming. The first three hours were 118/129/148 QSOs. I'd never experienced anything like this. About 3.5 hours into the contest 20 Meters wasn't producing so it was down to 40 and 80.

Saturday morning I started out on 40 Meters and then up to 20 an hour later. Fifteen opened up good around 1300Z. I stayed there for about two hours — then it was up to 10. Band conditions were crowded and I finally found a spot up around 28.120. I operated between 10 and 15 all afternoon. Conditions were steady from 1000Z to 1700Z, averaging 70 QSOs an hour. The rate meter was up over 100 most of the next five hours. At the 24 hour mark there were 2,081 QSOs in the log, 255 multipliers and 1.59 million points. Only disappointment was that the antenna for 160 wasn't being heard.

The evening hours were a bit slower. I'd hoped to concentrate on 40 and 80 but the rate was fairly slow there compared to the night before. Finally, exhausted, I decided to sleep at 0600Z. Four hours later I was back on the air.

I started to get a bit discouraged. I was hoping to break the 3,000 QSO barrier and had kind of secretly hoped for 3,500+ QSOs. But the rate Sunday morning just wasn't there. I searched and pounced and picked up some stations. I called CQ a lot but the rate never went over 45 QSOs an hour, and most of the time it was down around 30. Karl suggested I take a nap but I didn't want to miss anything. Then finally with Europe dying down everything picked up. The last six hours of the contest the rate was 74/77/68/132/102/131.

During the 2100 hour I broke the 3,000 mark and finished the contest with 3,401 QSOs. After removing the dupes and zero point Europeans there were 3,323 QSOs and 270 multipliers in the log for a total of 2.68 million points. What a blast! I hadn't really set any hard and fast goals before the contest. I'd looked at last year's results and figured with 2,500 QSOs I'd make the top ten box low power. My final score would have placed me fourth using last years results but I knew conditions would be better.

What would I do different next time other than a 160 antenna that works? Next time I'd push through the first night and maybe take a 1.5 hour nap at 1300Z while the EU push is on. Since I missed some multipliers on 80 Meters I'd work through the second night concentrating on those bands. I'd then take three hours off from about 1200Z. The other thing I'd do is pass the rare multipliers from the start. I missed several easy stateside multipliers — NV on 20 Meters and NE on 15.

The trip home was pretty uneventful. Karl and I were on the ferry at 7 a.m. headed to Nevis. Another friend of Karl's was the local manager for the commuter airline. I was able to get on to San Juan and then on a 757 into Chicago. I was finally home at 9:30 p.m. Monday night. It was a whirlwind trip but what an experience! Not only did I get to "be" DX for once, but I got an excellent cross-cultural experience and made what I'm sure will be lifelong friends.

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Is PSK31 in your future?

Armond Noble, N6WR

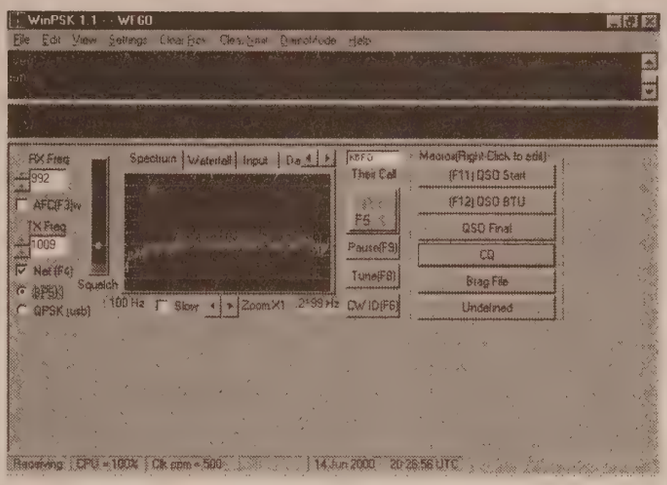
It's being called "The future of Amateur Radio." That's in light of the growing severity of antenna restrictions and rising property prices. Here's a mode in which extremely weak signals, even those buried in the noise or not even audible are workable — on the screen, that is.

This is PSK31, which stands for Phase Shift Keying, and the 31 is for the 31 HZ the signal takes up in the spectrum. At a demonstration, a question was asked if you could "go split" and the answer was, "Yes, tell him to move up 40 Hertz." It was said that with PSK31 and one to five watts to an idoor dipole, an amateur could make QSOs around the world.

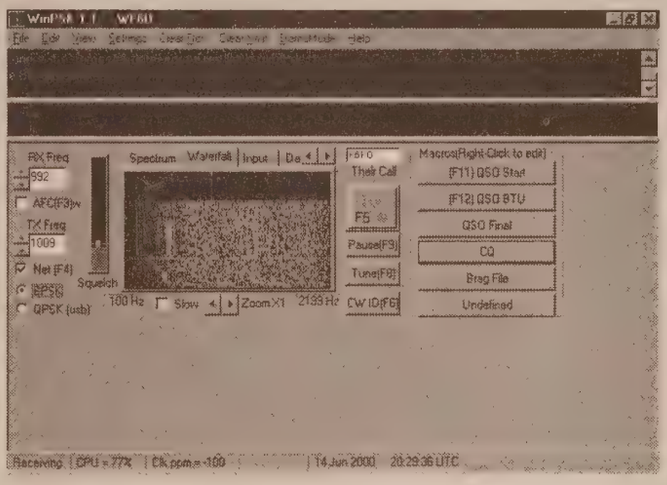
Dave Patton, NT1N, of the ARRL presented a seminar about PSK31 at the International DX Convention held recently at Visalia, CA. He said that three stations could fit into a space 1 kHz wide. All one needs is a computer with a 16-bit sound card, a Windows program, software that is free, two cables from the computer (one from the audio output and other to the microphone input of the transceiver). There is also a program written by N6IC for the Mac.

While a new mode sometimes frightens away those who fear that anyone not possessing an engineering degree will be in the darkness, PSK31 appears to be non-threatening to the non-technical.

Most programs use what is called "the waterfall" on the screen. It's a patch of blue appearing in a window with signals in the bandpass appearing as yellow streams streaming from top to bottom. With your cursor you select the frequency you want to operate on. While these are rather narrow slices of the spectrum, the computer compensates for any drift that may occur in either the receiver or the transmitter.



WinPSK features two ways to tune a signal—spectrum scope or using the "waterfall." WinPSK will run on an older 486 computer. Other software available for PSK use similar tuning aids.



On the top half of the screen you'll see what the other station has typed and what you have typed. You can have some messages in memory and there is a type-ahead buffer. The system works at a baud rate of about 50 wpm.

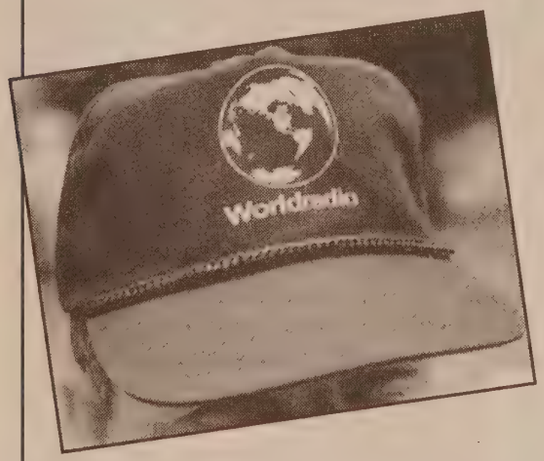
One word of caution — the microphone gain has to be set properly or the signal will take up too much space and distort your signal. The proper setting is at the point where the ALC just starts to indicate on your meter.

PSK31 signals can be found on 20 Meters around 14.069-14.072. Additional stations are starting to use 10 and 30 Meters. There is word that some stations on the East Coast are starting to use PSK31 as a weak signal mode on 2 Meters.

The May 1999 issue of *QST* has an article about this new mode, and there are two short articles in the latest issue of the "ARRL Handbook." At the demonstration, Richard Straw, N6BV and Doug Faunt, N6TQS, were mentioned as being particularly knowledgeable about this mode.

Free software, other stations will hear your weak signal and the computer does all the work — looks good!

The subtle mark of elegance.....



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To help commemorate 25 years of Worldradio, we announced an award known as "Contact All Time Zones" (CATZ).

• Rules

The start date for valid contacts is 01 July 1996 at 0000Z.

The world is divided into 24 time zones. Each time zone is 15 degrees wide. For the sake of this award, half-hourly zones and out-of-zone artificial time changes will be ignored.

This award is based on the true 15 degrees each, world map 24 time zones.

The applying station must have one (two-way) contact on Amateur Radio allocated frequencies with a station in each of the world's 24 time zones. Contact with one's own nation does not count.

The operator applying for the award must have made all 24 contacts from a location within the same country.

The award may be endorsed as the applicant wishes in regard to band and/or modes.

• Application

The applying radio operator must be in possession of 24 QSL cards, one from each of the time zones.

A list shall be made showing each contact's call sign, date, band, mode and the time zone starting with the prime meridian (0°) and moving eastward.

There is a fee of $5 to cover the cost and mailing of the 8 x 10 certificate (mailed unfolded).

It is not necessary to mail your QSL cards to Worldradio. Send a statement signed by two other licensed radio amateurs (General Class or above) that they have inspected and verified the required QSL cards.

Address applications to CATZ Award, Worldradio, 2120 28th St., Sacramento, CA 95818.

Recipients of the CATZ award will be announced in the Worldradio DX column.

Silent Keys

"TEX" BENEKE, KØHWY

Big band singer and saxophonist Gordon L. "Tex" Beneke, KØHWY, of Santa Ana, California, died at a rest home in Costa Mesa 30 May, reportedly of respiratory arrest.

Beneke took over the Glenn Miller Orchestra in 1946 after Miller's death during World War II, and he continued to capitalize on the Miller sound throughout his career. He later broke with the Miller estate and formed his own band, billing it as "Tex Beneke and His Orchestra: Playing the Music Made Famous by Glenn Miller."

A native of Forth Worth, Texas, Beneke joined Miller's orchestra in 1938. His southern-style vocals helped make hits out of Miller's "Chattanooga Choo-Choo" and "Don't Sit Under the Apple Tree," among others.

Fred Mason, W5SLT, recalls Beneke operated 10 Meters from his hotel room during his travels around the country, using a wire hanging out the window. Mason also remembers running phone patches in the early 1950s, so he could talk with his parents in Fort Worth.

Tim La Marca, N6RNK, a younger-generation big band leader, says he met Beneke in the early 1990s, first on the air and later in person. A mutual acquaintance had told Beneke about the young musician, so Beneke gave him a call on the local repeater. "Imagine my surprise when one evening, just as I was about to turn off my radio, there was a voice I had not heard on the repeater before."

A few months later, La Marca got to meet Beneke when his band was performing in Pasadena. "After the performance, we went backstage to meet Tex — one of the highlights of my life," he said.

"You can't mention the Big Band Era without the name of Tex Beneke coming to mind," La Marca said. "Even though his key is silent, we still have the recordings of his wonderful music to remember him by."

Curiously, Beneke's role was omitted from the movie, "The Glenn Miller Story." Beneke himself appeared in films such as "Sun Valley Serenade" in 1941 and "Orchestra Wives" in 1942.

UK church bells

The Brickfields Amateur Radio Society on the Isle of Wight is helping to preserve the traditional sound of village church bells by operating a series of Special Event Stations from three bell towers during the summer, in support of the Isle of Wight Church Bell Preservation Society. Each station is being sponsored locally, based on the number of radio contacts made.

The three stations will use the callsigns GB4BP, GB6BP and GB8BP, one of which will operate on the first Saturday of each month from May to October in callsign sequence. Each bell-tower station will be on the air for six hours and the award may be secured for 2-way logged contacts and SWL reports involving all three stations. Contacts will also provide points for the Isle of Wight County Award, the RSGB Islands on the Air programme as EU 120, and the Worked All Britain 48 and 58 squares.

A special commemorative card will be available. The QSL cards incorporate pictures of all three bell towers and will be sent via the bureau. Return cards may be sent to the club callsign GX0BAR. — *G4NJH, Newsline*

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Letters to the Editor

Vanity call signs

I wasn't too surprised at the extent of the popularity of changing call signs, related by K9HJN (Hilarious Jokey Notes) in "Rules & Regs" in the May issue. Some time ago the FCC changed their Rs & Rs so that Hams moving to a different numerical district would not have to change their call sign. This allowed Hams visiting Hawaii to change to a KH6 call and keep it when they went home. So many Hams visiting Hawaii took KH6 call signs that Hawaii ran short of calls and KH7s had to be issued. A visiting Ham changes call for a vanity Hawaiian call sign, then goes back home in a different district and keeps it. Tis to laugh.

You can work KH6s in almost any state in the US. Now there's an idea for a new AWARD: The 50-State KH6 Award. There would be "DXpeditions" of Hawaiian amateurs visiting states where there were no Hawaii calls — AH6, KH6, NH6 and WH6. According to my 1999 Call Book CD, only Delaware, Vermont, North Dakota and South Dakota are missing (but there is one in DC).

K9HJN has a good point, the FCC should charge for making call sign changes, but maybe not in the high amounts he quoted. When the FCC removed the requirement to change a call sign upon moving to another district it was in order to save itself cost and labor, yet is taking that on for the more numerous vanity call sign changes.

Ted Chernin, KH6GI
Pearl City, HI

Intentional interference

I read with interest your editorial in the June issue of ***Worldradio*** and agree 100%. They should get out of Ham radio BUT why would you wish them on the stamp collectors of the world? I am also a philatelist and resent your remarks — we are good guys, too, and don't need any nuts cast off from Hamdom.

Keep up the good work. ***Worldradio*** is one of the most enjoyable periodicals I receive.

Dr. John Kalan, WB6OJB
Pacific Palisades, CA

(Ed. I just KNEW there was at least one stamp collector that would write in. If I offended you, I apologize, Doctor, but in the heat of the moment, stamp collecting seemed to be the safest place to put them. So maybe they can go collect butterflies instead....)

Dumbing down...

Can't you see that this is what comes from the DUMBING DOWN of this once GREAT HOBBY?. It was disgusting to see those dummies falling all over one another getting to the exam sessions to upgrade now that the 20 wpm is no more. I used to say "If I can do it, anyone can." I guess I was wrong. I must have more smarts than I gave myself credit for.

Ham radio operators used to be the greatest — not any more my friend. I got out while the getting is good. I sold all my gear at a Timonium, Md. hamfest earlier this year. I got $450 for junk I had to dust off — stuff that had been sitting on the shelf for years. I sold the good stuff over the Internet — got my price. Now I have a new super fast computer, one with all all the bells and whistles. I am going to be generous and give Amateur Radio another five years before it is down the drain.

I did enjoy the picture show "Frequency."

Jim Lucas, ex-W3JIM
Joppa, MD

Congratulations

I read every major Amateur Radio related magazine, and each has something to offer to our avocation. ***Worldradio***, however, is unique in both its content and format. I look forward to each issue and know that Hams, new and experienced, do as well. Congratulations on thirty years of success and I wish you many, many more. And, Armond, I hope you will be around on ***Worldradio's*** fiftieth anniversary.

Jerry Boyd, K6BZ
Ono, California

Congratulations on 30 years. You people sure do a great job of covering what the average Ham does and is interested in.

Giles Berry, KE3CR
New Castle, DE

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DX is100+ miles snow free line of sight using 14 dBd 420-450 MHz beams and TC70-20 s at both ends. For greater DX, the TC70-20 properly drives the Teletec DXP-U150 150 watt amp. Check the ARRL Repeater Directory for ATV repeaters and frequencies in your area, our web site links on page 3 or contact us for leads to other ATVers. See the ATV section in chapter 12, page 46 of the 1995-2000 ARRL Handbook.

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(Ed. We have been asking readers to fill out our survey form at our web site, www.wr6wr.com. These are some of the comments we have received.)

"I am always amazed at the quality of ***Worldradio***. I only wish it were bigger so I wouldn't read it so fast!"
Phil Sikes, N7UX
Oak Harbor, WA

"Thanks for the survey. It shows you care what the readers want. I would like to see a way to vote for the best article of the month. I'm certain contributors would like the feedback."
Jack MacLean, K2IUK
Franklin, NC

"I like the human interest stories in your magazine. These are stories you never see in QST."
Mark Grossman, K2CON
Jamaica, NY

"First thing read is Dr. Sterbas' column, then the DX column, then check the QSL routes, Positively CW, and the Editor's Log. From that point I start scanning from page one on. If there is a contest on and I need exchange (RST, etc) info, I look it up in your Contest column and there it is! You've got THE best magazine on the market — please don't mess it up. God bless you all and keep up the good work."
Skip Westrich, WB8OWM
Canton, OH

"I know you are biased towards the operational aspects; however, I would like to see more hardware information. For instance, I would like to see a tutorial on APRS, what's being accomplished, basic hardware/schematics/lashups to get one the air, etc. The same for other modes of Amateur Radio like satellite, SSTV, etc."
George Guler, WØOIR
Sun City Center, FL

"I read your great magazine every month and to tell the truth (for once) I probably read the whole magazine by the time the moth is over. DX World is excellent. John Minke is great. Are you really going to read this stuff? In any event, thanks for asking my opinion."
Henry Omeara, WB2NRX
Jensen Beach FL

"Keep up the great work! Wonderful magazine!"
Bob Brown, KB9LFR
Winfield, IL

"As one of your earliest Lifetime subscribers, all I can say is: What a bargain! I feel very fortunate to have been with you during the golden years of Ham radio. Please keep it going.
Dave Kennedy, N4SU
King, NC

"I think ***Worldradio*** is an all-around magazine. It has something for everyone. During the month between issues I read almost every item."
Wilton Mason, WD5DNA
Springhill, LA

"I did receive a sample copy of your ***Worldradio*** magazine. It sure is well done and a lot of good Ham information. Most magazines today have more advertising than information related to Amateur Radio. Keep up the good work."
Rick Philibert, KA1CSL
Swansea, MA

Ed. Not all of the comments were positive;

"I was a happy subscriber to your magazine for four years. Then articles started appearing from Nancy Kott on behalf of the "FISTS" Club. I resigned from that club because she has a completely closed mind on things that she doesn't agree with. I love CW and always will, but all things in life are not cast in concrete.

"Then you published an article written by a long time "expert" in the field of Ham radio about the benefits of pre-amps in 2M band amplifiers. His conclusions were in error. He wrote that he saw little if any gain on the received signal on 2M FM. Apparently he wrote this based on old technology, probably MOS-FET experience. Since the advent of GAS-FET technology, the benefit of pre-amps on 2M FM and SSB are very great. I'm speaking from first hand experience. I am somewhat old school about some things. One of them is; don't print something that has not been spell checked, grammer checked and the content checked for right now accuracy. Don't assume correctness based on past laurels. Another thing, what is going on with frequency being written as MHz for all bands? Whatever happened to kHz? Did I miss something? All of a sudden everything is written as MHz, regardless of the band!"
Unknown

Ed. Thank you, readers for taking time to fill out the survey form. It let's me know what you want to see in Worldradio. With your help, I can make this the BEST Amateur Radio magazine in the world!

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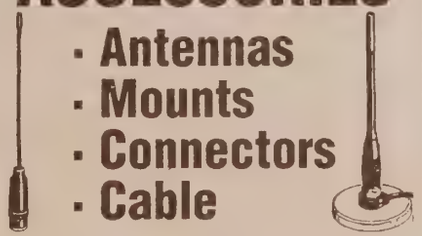

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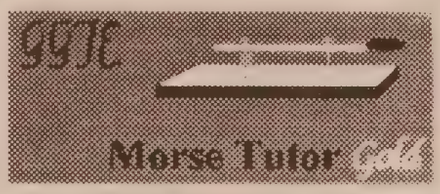

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Station Appearance

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Owen Wormser, K6LEW

Owen's truck is a 1997 Dodge RAM 2500. Inside the cab, the gear is arranged in three different sections. On the left pedestal, Owen has a Kenwood TM-642 (10M, 2M and 1.25M), a Kenwood TM-742 (23 cm, 6M and 70 cm), and Icom 706 (using all HF through 2 Meters), and a DC voltage and current monitor for his "split charge system."

The center pedestal has a Mortorola MicroTech cell-phone, Garmin GPS, Timewave 5-9+ DSP filter, Kenwood XXX (APRS only, 144/470 Dual Band), HB control head for MaxTrac 900 and a Radio Shack in-line power meter with a range of 1 MHz to 150 MHz.

The center console has a Yaesu FT-790, rotor control selector box for either rotator, a Bencher paddle, Emoto rotor control for DC rotators, an SGC 2020 (used as 28 MHz IF radio for VHF, UHF and microwave transverters only) and a control box for selecting "control" of radios between operators.

The back of the truck contains 6 T.E. Systems solid state amplifiers covering 6M through 440, with two of the amplifiers dedicated to CW/SSB on 70 cm and 1.25M. Each amplifier is modified for better bias control and overall increased output. It also contains a Mirage 2M solid state amplifier for 2M a Motorola Maxtrac 900 35 watt amplifier modified for a repeater on 907/5/919.5, a DownEast Microwave 23 cm 120 watt amplifier for both FM and CW/SSB, driven by a Yaesu FT-736 to SSB 23 cm (when configured for roving). There's also an Icom AH3 remote antenna tuner and a home-brew solid state amplifier for 28 MHz capable of 350 watts for 10M.

The forest of antennas on top of the camper shell consists of seven vertical antennas for FM covering 10M throught 23 cm (they all lay over for trips throught the car wash), The tripod has a 6-element Yagi on 2M, a 7-element Yagi on 1.25M and the Emoto DC rotator.

On the right rear corner is a 28 foot extendable mast with another Emoto DC rotator with a 7-element 432 MHz Yagi, and macrowave antennas covering 33 cm through 47 gHz. These include four long boom antennas for the lower four bands (33 cm through 3456.1, and three dish antennas. Two of the dish antennas are mounted on a cross beam with their respective transverters and use only the 2M IF cables to control lines for both bands.

Inside the camper shell are two 19-inch racks, three feet high with DC supplies, all the transverters (except 24 and 47 GHz), TWTA's for 2.3 through 10 GHz and a solid state amplifier for 903. Two DC-AC 1,500 watt inverters power equipment requiring AC. There is also a Jacobs "AcuVolt" DC regulator in the primary DC bus (heavily shielded and lots of ferrites) and a 600 amp-hour marine gel cell battery in the right rear area powers all DC requirements for the Amateur Radio gear.

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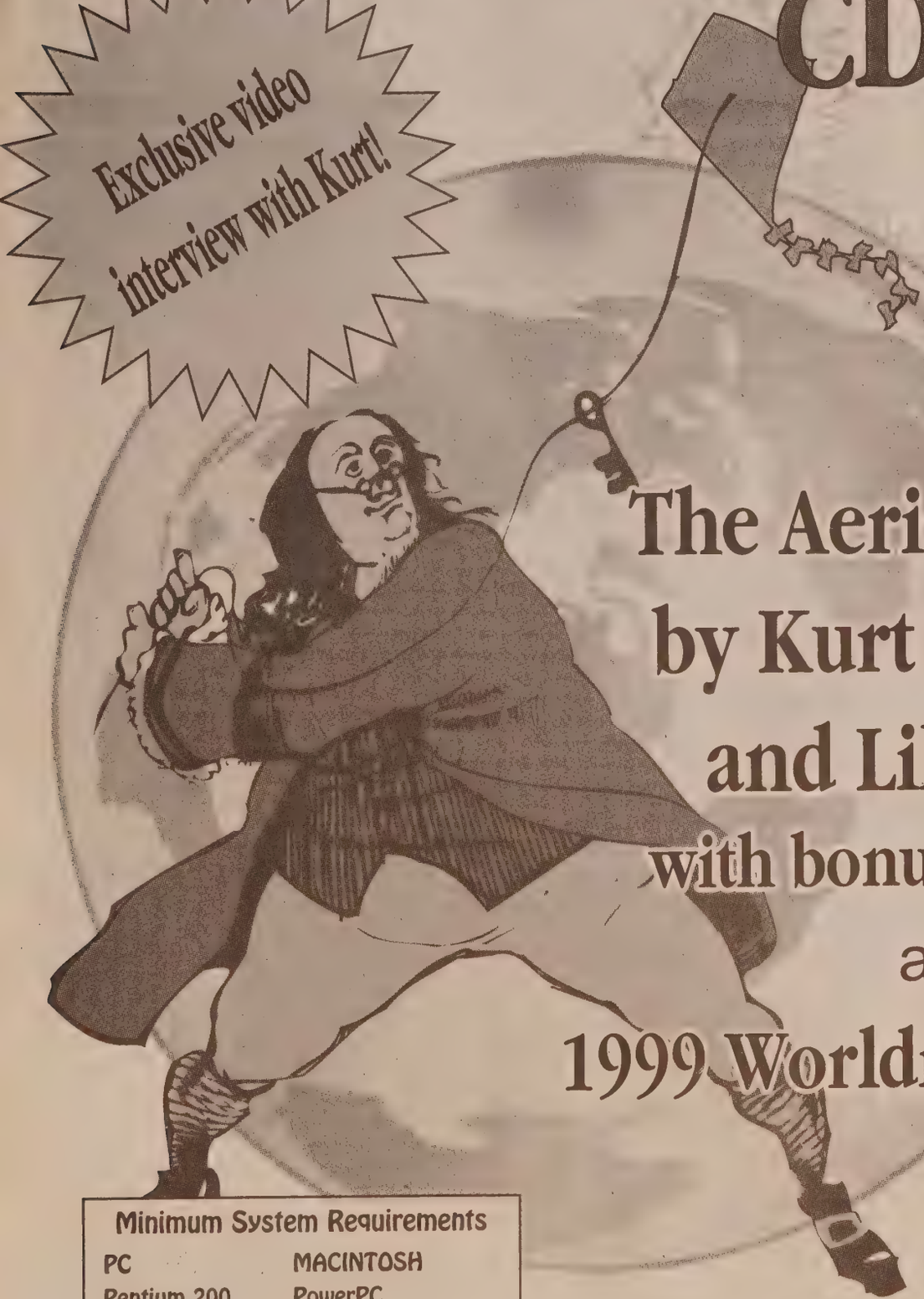

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W-100-N

Only one qualifying application for *Worldradio*'s Worked 100 Nations Award was received in May and that goes to:

567. Edward P. Madison W2SF
25 May 2000

I continue to receive applications that include invalid contacts such as United Nations (4U1) and Guatanamo Bay (KG4). The U.N. is not a country at all, nor Guatanamo Bay. If anything, the latter would count only for the U.S., and the former would count the same as the U.S. — it's located in New York City! The key word is "Nation."

CATZ

The same for our CATZ award during the month of May. Congratulations go to:

24. Robert J. Parrish W9BP
"All CW" 25 May 2000

Agalega Island (3B6)

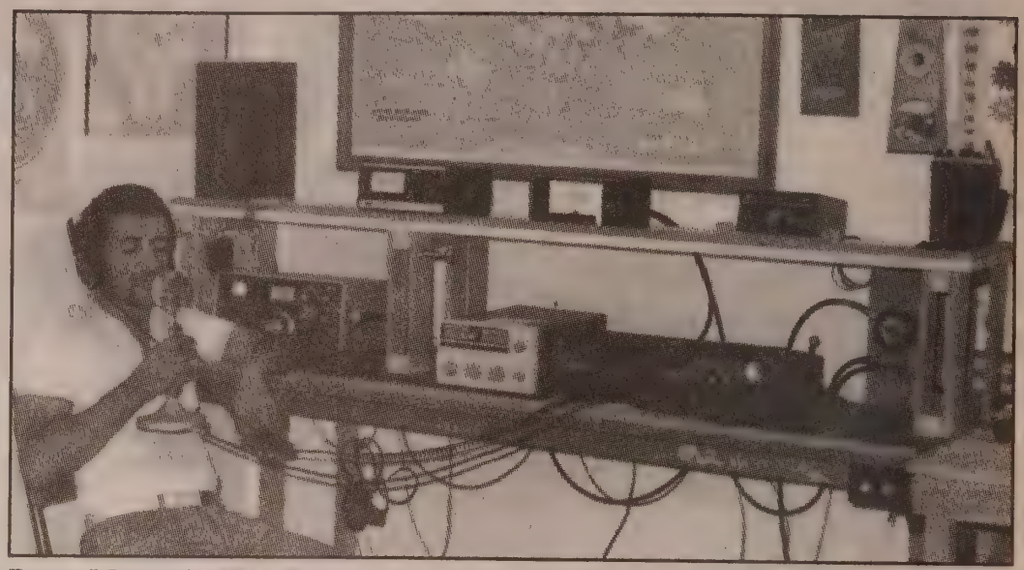
The number of confirmed operators for the October DXpedition to Agalena Island (AF-001) is 17 DXers, with openings for one from Japan and another from the U.S. The present American operator is Vince Thompson, K5VT. The majority of the members are Swiss and stands at 11.

Vietnam (3W2)

According to *425 DX News,* Mal, VK6LC, has returned to Vietnam for a six-month work assignment that should last until November. Look for Mal signing with 3W2LC from Vung Tau.

Botswana (A2)

Active from the Republic of Botswana is Rayne Meyer, A22RM. A radio amateur since 1988, Rayne relocated to Botswanna from South Africa last year. Presently, he is the only amateur in this area and is working with the Botswana Telecommunications Authority in an attempt to get the local youth involved.



Rayne Meyer, A22RM, busy with a contact. Look for him on 10 Meters. He runs 100 watts to a 3-element tri-bander.

Kingman Reef (KH5K)

Garry Shapiro, NI6T, announces the Kingman-Palmyra DX Group will activate two rare Pacific entities, Kingman Reef (KH5K), and Palmyra Atoll (KH5), this year. Both are high on the current Most Wanted Lists, with Kingman Reef (OC-096) currently #3 in Europe. However, due to a special situation, their activation will occur in several phases over the summer and fall.

About 1,000 miles south of Hawaii, Palmyra Atoll (OC-085) is privately owned, and is currently in the process of being sold. The sale offers both challenges and opportunities for the DXpedition team. The operations will be coordinated with all parties to the transaction, and they expect to benefit from temporarily enhanced access to the area.

Chuck Brady, N4BQW, was the first member of the group to begin operations and was active from Palmyra Atoll the latter part of May and established the base camp for the major operation in October, which will include a full-scale, 10-band activation of Kingman Reef.

Chuck had made an unannounced trip to Kingman Reef for a short operation of just over 24 hours on 17 May. The high winds and heavy rains caused several interruptions during this operation.

Egypt (SU)

The SU9DX IOTA DXpedition to Giftun Island has been postponed and a new date will be announced later this year. This would have been a new island for IOTA chasers.

Willis Island (VK9W)

The Australian DXpedition to Willis Island (OC-007) came on within a couple of days following the successful Bhutan 2000 operation. VK9WI, with a team of four, was up and running shortly after their arrival on 12 May. Although hampered by weather conditions they managed to begin with one station running 10, 15 and 20 Meters.

Unfortunately, disaster struck one of the team members. Peter Garden, VK4APG, received a compound fracture just above the ankle and had to be airlifted to the hospital in Cairns. The accident happened while trying to get off the catamaran *Bach and Byte.*

This left the group with only three members: Nick Hacko, VK2ICV; Alan Meek, VK4BKM; and Harry Holton, VK4DH, to hand out contacts. And, considering that they are human, they had to eat and sleep. Another one of the

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MS-064-832	160-80-40-30-15-12M DOUBLE SLOPER	60' LONG	$90.00

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members had cut his leg while on the catamaran. During the last few days of operating the weather was very bad with some of the tents flooding. Despite the challenges, the team had collected some 15,000 contacts by 20 May.

Operations were originally scheduled to last until 30 May. However, plans were modified and the DXpedition was cut short by eight days. Peter, VK4APG, is the QSL manager. They anticipate returning to Willis Island in the future.

Bhutan (A5)

The Bhutan 2000 DXpedition did a fine job. Despite the fact that they were limited to 100 watts, they logged some 82,087 contacts with the last one at 0227 UTC on 12 May. We understand that Carl Smith, N4AA, editor of *QRZ DX*, was the last entry in the A52A log. They hold the second highest record for contacts, the honor going to the ZL9CI DXpedition with 96,004 contacts.

This was an easy one for those DXers residing in Europe as the propagation for them was around the clock. Those in Australia suffered the most as the A52A operating site was on the other side of the mountain. DXers on the west coast had to work hard to get this one in their logs. An interesting observation was that it was harder for those in Southern California than those in the Pacific Northwest.

However, those with favorable propagation did well with many a deserving DXer working A52A on several bands. Fifteen meters evidently was the most popular band as over 25,000 contacts were made on that band. Just over 20,000 contacts were made on 20 Meters. The 15 team members included: Jin Fujiwara, JF1IST (A52IST); Jari Jussila, OH2BU (A52BU); Mark Johnson, NØMJ (A52MJ), only 14 years old and probably the youngest operator to ever go on a DXpedition; Andy Chesnokov, UA3AB (A52AB); Vince Thompson, K5VT (A52VT); Mac Shimamoto, JA3USA (A52US); Bob Allphjin, K4UEE (A52EE); Yuu Yoshitani, JA3IG (A52IG); Mark Demeuleneere, ON4WW (A52WW); Wes Lamboley, W3WL (A52GB); Al Hernandez, K3VN (A52VN); James Brooks, 9V1YC (A52YC); Glenn Johnson, WØGJ (A52GJ); Don Greenbaum, N1DG (A52DG); and Harry Booklan, RA3AUU (A52UU). The calls in parenthesis were their individual issued calls, whether they used them or not. Many of the team members are experienced DXpeditioners.

Jim Smith, VK9NS, continued to operate signing with A52JS as the Bhutan 2000 team closed down. Jim's operating site was located in the city of Paro, a site more favorable to those in the Pacific. Jim collected approximately 20,300 contacts during his stay in Bhutan.

And, if you missed this one, you will have another shot at it this fall. The Clipperton DX Club will be going there with a team of at least four French DXers for the period 1-15 September.

Tristan da Cunha (ZD9)

Look for Bob Henderson, G3ZEM, for a CW operation from Tristan da Cunha (AF-029) during September 2000. According to The *Daily DX* Tristan da Cunha and Gough Islands ranked # 53 on the 1999 ARRL DX Most Wanted List while ranking #29 on the 1999 *DX Magazine* Most Wanted List.

Bob and his wife, Karen, will fly to

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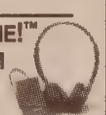

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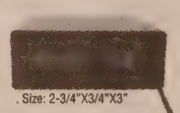

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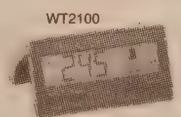

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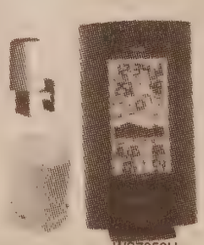

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Capetown at the end of August where they will join the Antarctic survey vessel *SA Agulhas* for their journey to Tristan da Cunha, which sails 31 August and arrives at Tristan 04 September. Bob plans an operating period over 20 days until the ship departure for Capetown scheduled for 25 September.

They will be the guests of Andy and Lorraine Repetto, who sign with ZD9BV and ZD9CO respectively. The operation will be CW only, on all bands from 10 through 160 Meters. The call sign has yet to be announced.

IOTA

425 DX News reports that Dan, VK8AN; Len, VK8DK; and Terry, VK8TM will be active in early September from two new IOTA island groups. First, they will operate from Browse Island in the Western Australia Outliers from 01 to 05 September, then from Cassini Island in the Bonaparte Archipelago from 07 to 11 September. QSL requests for these shall go via Alan Roocroft, VK4AAR.

The BI4L DXpedition to Changdao Island (AS-146) collected over 6,000 contacts the first few days in May for a brand new IOTA island for the IOTA chasers.

If you haven't worked the Shetlands (EU-012) yet, look for GS2MP during the *CQ* Worldwide DX Contest this October. This will be the GM7V team with a multi-multi entry in the contest.

Very active in May was N5VT claiming to be Chandeleur Islands (NA-089). Roger Balister, G3KMA, reports his location was not valid to count for this one. But here is a collection of good ones for May IOTA activity:

AF-018 IH9/OK1FUA	Pantelleria Island	24-29 May
AN-006 EM1KY	Galindez Island	03-29 May
AN-015 8J1RL	Ongul Island	25 May
AS-005 RAØBK	Dickson Island	17-29 May
AS-008 JL1UXH/1	Ohshima Ialand	04 May
AS-008 JL1LMQ/1	Ohshima Ialand	04 May
AS-012 JL6UBM/6	Amakusa Island	03 May
AS-012 JA4PXE/6	Amakusa Island	04 May
AS-012 JI3DST/6	Amakusa Island	04 May
AS-012 JA6LCJ/6	Amakusa Island	03 May
AS-015 9M2TO	Pinang Island	10-29 May
AS-017 JS6PXB	Okinawa Island	12-22 May
AS-017 JR6EA	Okinawa Island	01 May
AS-024 JS6LIH	Yaeyama Islands	23-25 May
AS-024 JE5UOP/6	Yaeyama Islands	02-04 May
AS-026 HL4HLD	Cheju Island	01-22 May
AS-032 JA6CTW	Yaku Island	10-19 May
AS-037 JI3DST/6	Koshiki Islands	01-02 May
AS-040 JH6TYD	Goto Island	08 May
AS-041 JN4MCL/4	Oki Archipelago	01 May
AS-041 JI3DST/6	Oki Archipelago	28-29 May
AS-043 JI2KLU/1	Nampo Archipelago	03-10 May
AS-047 JH1HUK/6	Daito Islands	01-07 May
AS-047 JR8GZU/6	Daito Islands	07 May
AS-049 JR1MKS/6	Kuchinoshima	03-04 May
AS-053 HSØ/IK4MRH	Phuket Island	09-15 May
AS-056 JA4PXE/6	Danjo Archipelago	05-06 May
AS-056 JA6GXK	Danjo Archipelago	01-07 May
AS-062 RAØLOM/Ø	Shikotan Island	01-30 May
AS-067 JA4PXE/6	Uji Shima	03 May
AS-072 9M2/G3LIV	Pangkor Island	19-29 May
AS-073 9M2TO/P	Perhentian Island	18-20 May
AS-081 DS4CNB/5	Hansan Island	01-02 May
AS-083 RA9LI/9	Belyj Island	01-21 May
AS-094 BD7YC	Hainan Island	03 May
AS-103 BV9AAC	Penghu Island	03-19 May
AS-117 JL2LRO/2	Saku Island	20 May
AS-132 XV5TK	Cat Ba Island	04 May
AS-132 XV5VE	Cat Ba Island	01-04 May
AS-132 XV5JY	Cat Ba Island	01-04 May
AS-134 BI3H	Shijiutuo Island	01-02 May
AS-136 BD4ED	Chong Ming Island	25 May
AS-146 BI4L	Miaodao Archipelago	01-03 May
EU-008 GM3VLB/P	Inner Hebrides	25-30 May
EU-010 GM3JIJ	Isle of Lewis	06-14 May
EU-010 MMØBJG	South Uist Island	13-18 May
EU-011 G3RPC	Isles of Scilly	21 May
EU-016 9A4KF	Hvar Island	16 May
EU-028 IA5/I4IOR	Capraia Island	19 May
EU-033 LA4MQ	Hinnoy Island	01 May
EU-036 LA8LA	Hitra Island	23-24 May
EU-041 IMØ/IV3UHL	Santa Maria Island	03-04 May
EU-042 DF3ZE/P	Amrum Island	05-17 May
EU-045 IBØ/IKØGDG	Ventotene Island	20 May
EU-045 IBØ/IKØGDG	Parmarola Island	05-06 May
EU-046 LA1CI	Ringvassoey Island	13-21 May
EU-047 DJ9IN	Norderney Island	20 May
EU-047 DQØKBM	Borkum Island	12-15 May
EU-049 SV8DTL	Lesvos Island	25 May
EU-049 SV8CRI	Lesvos Island	20-25 May
EU-049 SV8/PA3HGP	Samos Island	04-10 May
EU-049 SV8CYV	Samos Island	16 May
EU-052 SV8/GM3YOR	Zakinthos Island	24-26 May
EU-054 IF9/IT9PPG	Favignana Island	07 May
EU-055 LA2BKA	Reksteren Island	04-23 May
EU-055 LA4CM	Karmoy Island	19-29 May
EU-056 LA2FKA/M	Gossen Island	04 May
EU-056 LA2FKA/M	Ona Island	01 May
EU-057 DL5KUD	Reugen Island	14 May
EU-057 DL4PM	Ruegen Island	07-29 May
EU-057 DL4UMA/P	Ruegen Island	29 May
EU-060 SVØLR	Evias Island	01-04 May
EU-060 SV1CIV	Evvoia Island	16 May
EU-066 UA1OLM/P	Solovetskiye Islands	01-04 May
EU-066 RZ1OA/P	Solovetskiye Islands	01-05 May
EU-072 SV8/DL6UCW	Alonissos Island	20-23 May
EU-072 SV8/DL6UCW	Skopelos Island	10-18 May
EU-074 F6OQA/P	Brehat Island	14 May
EU-074 F6BNJ/P	Brehat Island	14 May
EU-074 F6KOP/P	Brehat Island	05-09 May
EU-075 SV1TP/P	Poros Island	15 May
EU-082 U1ZA/A	Kildin Island	01 May
EU-086 UA1PAC/P	Vaygach Island	01-04 May
EU-109 GØKJW/P	Farne Islands	13 May
EU-109 GØOWE/P	Farne Islands	20 May
EU-113 SV8/I2YYO	Kithira Island	20-26 May
EU-120 GBØHI	Hilbre Island	26-29 May
EU-122 GI4WSB/P	Northern Irish Islands	29 May
EU-123 GM3VLB/M	Great Cumbrae Island	06-07 May
EU-123 GS3EEO/P	Ailsa Craig Island	09-12 May
EU-124 GC4TTA	Anglesay Island	21 May
EU-124 GWØHGN/P	Anglesey Island	29 May
EU-129 DL2RU/P	Usedom Island	15-20 May
EU-129 DFØWLG	Usedom Island	06 May
EU-130 IV3VBM/3	Sant'Andrea Island	13-14 May
EU-130 IV3KTY/3	Schiusa Island	23 May
EU-131 IK3PQH	Lido Island	06-20 May
EU-131 IK3TTY/P	Lido Island	13 May
EU-131 I3BQC/P	Campalto Island	13-14 May
EU-132 SO1VOX	Wolin Island	23-31 May
EU-133 R1AP	Gogland Island	06-10 May
EU-136 9A2DM/P	Goli Island	05 May
EU-136 9A9JH	Rab Island	25-26 May
EU-136 9A3LM/P	Rab Island	05 May
EU-136 9A5ZM/P	Rab Island	05 May
EU-136 9A2DM/P	Krk Island	06 May
EU-136 9A2YD/P	Dugi Otok Island	20-21 May
EU-136 9A4A	Pag Island	04-13 May
EU-136 9A2DM/P	Cres Island	06 May
EU-144 IK8WEJ/8	Dino Island	01 May
EU-148 F5XX/P	Fort Brescou	25-26 May
NA-031 W1LY	Conanicut Island	13 May
NA-051 VE7TLL	Queen Charlotte Is.	05-19 May
NA-051 VE7RHF	Queen Charlotte Is.	01-19 May
NA-054 C6AKA	Berry Islands	23-29 May
NA-057 AH6PN/HR6	Roatan Island	21 May
NA-061 VE7QCR/P	Kaien Island	20 May
NA-062 W2SF/P	Florida Keys	01-15 May
NA-065 N6FD/7	Fidalgo Island	05-19 May
NA-065 AD7U	Whidbey Island	13 May
NA-072 HP1XVH	Contadora Island	13-22 May
NA-075 VE7FEI	Gulf Islands	01-07 May
NA-083 AA3DD	Chincoteague Island	29 May
NA-085 N4PN	St George Island	03 May
NA-110 AA4V	Isle of Palms	06-17 May
NA-110 WB4WTY	Folly Island	18 May
NA-112 AC4WW/P	Bojue Banks	29 May
NA-142 AC4WW/P	Dauphin Island	16-17 May
NA-143 AB5EB	Galveston Island	10-16 May
NA-155 TE6U	Uvita Island	17-21 May
OC-012 V63BD	Yap Island	01-02 May
OC-022 YC9BU	Bali Island	03-21 May
OC-022 YC9DBP	Bali Island	09-23 May
OC-033 FK8VHY/P	Tiga Island	01 May
OC-033 FK8HZ	Lifou Island	01-30 May
OC-046 FOØCLA	Tahiti Island	30 May
OC-046 FO5PI	Tahiti Island	24 May
OC-066 FOØCLA	Tuamotu Archipelago	01-26 May
OC-067 FO5QS	Huahine Island	03-26 May
OC-067 FO5NL	Raiatea Island	17 May
OC-075 YC5TA	Batam Island	10-12 May
OC-075 YC5PQM	Batam Island	10 May
OC-075 YC5YCT	Batam Island	14 May

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DX World

DX Prediction — August 2000

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CENTRAL U.S.A.

UTC	AFRI	ASIA	OCEA	EURO	SO AM
8	18	18	***29**	*(13)*	***21**
10	23	***16**	***25**	***22**	***22**
12	29	***17**	***22**	***26**	***25**
14	33	19	***20**	***29**	***32**
16	***36**	16	19	***28**	***38**
18	***37**	*(15)*	18	***27**	***41**
20	***34**	23	***35**	***25**	***43**
22	***28**	***27**	***42**	***22**	***43**
24	***24**	***29**	***45**	***17**	***40**
2	***22**	***28**	***44**	***14**	***33**
4	***22**	25	***43**	***20**	***28**
6	21	***22**	***36**	***17**	***24**

WEST COAST

UTC	AFRI	ASIA	OCEA	EURO	SO AM
10	*(16)*	***18**	***26**	*(13)*	***23**
12	26	***15**	***23**	22	20
14	31	***19**	***20**	***26**	***30**
16	34	***21**	19	***27**	***36**
18	***36**	17	18	26	***40**
20	***34**	***27**	***34**	23	***43**
22	***29**	***31**	***42**	*(17)*	***43**
24	24	***31**	***44**	14	***39**
2	22	***30**	***44**	*(15)*	***32**
4	***23**	***28**	***43**	***22**	***27**
6	24	***26**	***39**	***19**	***24**
8	20	***21**	***31**	16	***21**

EAST COAST

UTC	AFRI	ASIA	OCEA	EURO	SO AM
7	***26**	16	***28**	***15**	***21**
9	26	*(13)*	***24**	***27**	***22**
11	***35**	***22**	***22**	***26**	***24**
13	***40**	20	20	***29**	***32**
15	***43**	17	*(19)*	***29**	***37**
17	***42**	15	*(18)*	***29**	***40**
19	***37**	21	27	***27**	***43**
21	***31**	26	39	***24**	***43**
23	***26**	***29**	***43**	***19**	***40**
1	***23**	26	***43**	***16**	***33**
3	***19**	21	***41**	***14**	***28**
5	***27**	19	***33**	***17**	***24**

OC-075 YC5VCK	Batam Island	11 May
OC-075 YC5TML	Batam Island	08-21 May
OC-075 YC5YAS	Batam Island	11-21 May
OC-100 H4ØMY	Temotu Islands	22-23 May
OC-129 DU7MHA	Cebu Island	21-26 May
OC-130 DU8DJ	Mindanao Island	02-26 May
OC-130 DU8BOF	Mindanao Island	12-24 May
OC-137 VK4LV	Bribie Island	15 May
OC-137 VK4CY	Lamb Island	14 May
OC-139 VK5ACY	Kangaroo Island	04 May
OC-148 YC9MKF	Timor Island	02-10 May
OC-149 H44NC	New Georgia Islands	13 May
OC-154 VK8AN/6	Throughton Island	10-22 May
OC-210 YC8RRK	Sangihe Island	21-24 May
SA-008 LU8XP	Terra del Fuego	04-23 May
SA-008 LU2XT	Terra del Fuego	06 May
SA-008 LU8XPA	Terra del Fuego	25 May
SA-020 FY/F5KEE	Royal Island	29-31 May
SA-023 PY6JJ	Itaparica Island	05-22 May
SA-064 CE7AOY	Isla Las Huichas	20-29 May

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DXpeditioning — behind the scenes

Neville Cheadle, G3NUG, has announced a new book on DXpeditioning has recently been published. Called "DXpeditioning — Behind the Scenes" it has been written by members of the 9MØC Spratly team. It is not a story of the DXpedition but draws heavily on the experiences at 9MØC and on many other DXpeditions.

Wayne Mills, N7NG, in his review commented: "The well-crafted 'DXpeditioning — Behind the Scenes' offers a comprehensive view of virtually all aspects of a major expedition for the traveler and the DXer alike. From early planning through QSLing, this book offers a variety of thoughts and suggestions on every facet of the DXpedition. It is by far the most complete 'how-to' reference available."

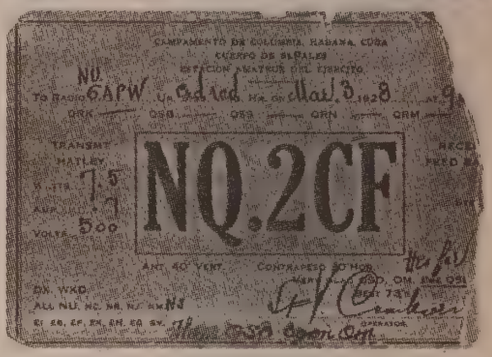
Chapter summaries can be found at www.nevada.co.uk/book-DX.html and the book can be ordered on-line at this site (16.95 GBP + P&P). All the surpluses from sales of this book will be used as part of the funding for a major DXpedition, probably in March 2001. Neville Cheadle, G3NUG, Joint Editor.

IREF

Mike Crownover, AD5A, says that the Island Radio Expedition Foundation (IREF) has now been in existence for just over one year. It is an organization created to provide support to IOTA expeditions to new and rare IOTA qualifying islands. The Foundation relies on contributions from members on at least an annual basis. IREF is a 501(c)(3) organization which means contributions are tax deductible to U.S. Amateurs. IREF is a global organization with an International Board of Directors.

Some of the IREF sponsored expeditions include: BI7Y (AS-143), 5Z4WI (AF-067), 3V8BT (AF-073), 9G5MD (AF-084), and BI4L (AS- 146). Notice that some of these islands represent some interesting DX as well.

Of the nine expeditions that IREF has helped sponsor, the average expedition made 6,412 contacts. The 12 expeditions that IREF has sponsored or committed to sponsor during our first year, are needed by an average of 93 percent of the "Island Chasers" for a new one based on the IOTA needed list located on the 425 *DX News* website.



To learn more about IREF and how to become a member, please visit the IREF website at http://www.sat.net/~iref.

Antique QSL department

Old time readers are saying, "Why are you running AC4RF again?" Well, many new readers will think that AC4RF belongs to some Yank in Florida, but in reality it was the famous Bob Ford, who was very active over a half-century ago from Tibet. John Pesely, W6EFM, worked Bob back in 1949 on 20 Meters. Bob said he was using a EL32 crystal oscillator to a 6L6 final, about 15 watts. His power source was a 6-volt storage battery. To you new DXers, a 6L6 was a vacuum tube, and if I remember correctly, could be either a metal or glass envelope.

I just had to include the next one, submitted by Bill Schuchman, W7YS, of the Northern Arizona DX Association. This was Suitland Island that "surfaced for two days in the minds of DXers seeking a 'new one'" back in 1982. Now, who says that Slim doesn't QSL?

Now we step back to an era when many of us were yet to be born, let alone be licensed: Jerry Faas, W6KMI,

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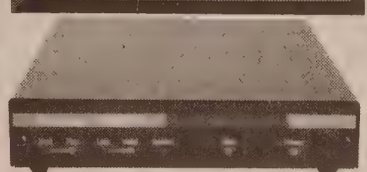

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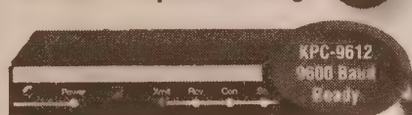

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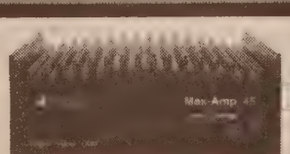

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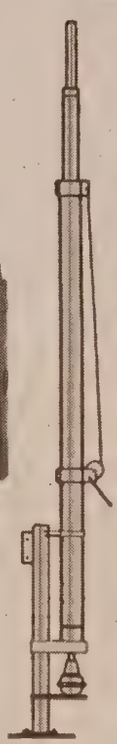

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submitted this one for NQ2CF of Cuba. The card is so old that it has begun to crumble. The date was 03 March 1928 and Jerry was signing with NU6APW. The prefix? N for North America, and U for United States.

I received a packet of copies of cards in May from Bob Ekleberry, W4CKD, which I shall begin using very shortly.

QSL information

There has been some discussion regarding how to send for a QSL request to 5A1A. The operator, Abubaker, says you should send it via registered mail with a green stamp. He does not want IRCs. Sending your mail this way is very costly, but if you want your card bad enough you'll go that route. However, please note that the receiving station gets nothing from that expense.

Charly Harpole, K4VUD, says that there is a mailing category called "Recorded Delivery" which seems little used but may be ideal for sending to "difficult" countries. This category puts a little yellow numbered sticker on the envelope and requires the delivering post office to record that the item was delivered. Charly says that it is cheaper than registered, for example, and may do the trick. He uses this technique when sending QSLs to countries with a history of delivery problems.

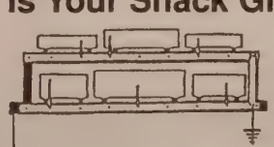
Thanks go to the following contributors for this month's column: A22RM, G3NUG, VK9NS, N1DG, K4VUD, N4XP, AD5A, W6EFM, W6KMI, NI6T, W7YS, WA8AA, Western Washington DX Club (WAØRJY), Northern Arizona DX Association (W7YS), WebCluster (OH2AQ), *425 DX News* (I1JQJ,), *The OPDX Bulletin* (KB8NW), DX-News (NJDXA), *The Low Band Monitor* (KØCS), *The Daily DX* (W3UR), and *QRZ DX* (N4AA).

I hope you all had a chance to work A52A, or at least Jim Smith, A52JS. Yes, I did work them, but only on 20 Meters CW. But, that's OK as one contact is better than no contact at all. It was a new one for me. 73 de John N6JM.

For even more QSL listings check our website at: www.wr6wr.com.

3B8GL	3B8CF	AHØBB	JR1VUF	FH/TU5AX	F5OGL	LZ1VP/AM	LZ1PJ	TI5N	TI5KD
3C2JJ	F2XX	AM5DWS	EA5DWS	FK8HC	VK4FW	M7W	G3CSR	TJ1GD	SP9CLQ
3D2QB	SM3CER	AN1FBU	EA1FBU	FM5GU	KU9C	MCØCDX	G4JVG	TJ1MG	I2OMK
3D2RW	ZL1AMO	AN6IB	EA6IB	FOØCLA	F6CTL	MD/NØKV	NØKV	TJ1PD	N5DRV
3D2ZC	AA1ON	AP2JZB	K2EWB	FOØDER	3D2AG	MJ/F5TJP/p	F5TJP	TK/DL2SBY	DL2SBY
3V8BB	YT1AD	AX2ITU	VK2PS	FP5BZ	F5TJP	MMØBQI/p	MMØBQI	TK/DL4FF	DL4FF
3V8ST	DL1BDF	AX2ØØØ	VK2PS	FR5FD	N6TR	MUØASP	F5SHQ	TP2ØØØCE	F6FQK
3W2LC	VK6LC	AX2PS	VK2PS	FR5ZQ/G	FR5ZQ	N3WW/KHØ	JF2WXS	TR8CA	F6CBC
3W6LC	VK6LC	AX8AM	VK8AM	FT5XN	F6IHY	NH6D/KH4	N6FF	TT8JA	F5RWE
3W7CW	SP5AUC	BD4DW	BA4DW	FW/G4DZC	AA1ON	OD5/OK1MU	OKDXF	TT8JLB	F5BAR
3Z1DTG	SP1DTG	BTØQGL	K6EXO	FY/F5KEE	F8BXI	OD5PN	LX1NO	TU2DP	K4MQL
3Z1MHV	SP1MHV	bureau HSØAC	G3NOM	FY5FU	F5PAC	OHØHAC	DL9FAZ	TZ6VV	KBØVV
3ZØI	SP6ZSA	BV3/DJ3KR	DJ3KR	FY5HY	F6IHY	OHØRB	OH3RB	UA1OLM/p	RZ1OA
3ZØKAG	SP9KAG	BV4VE	BV5KR	GB2BYL	MØBYL	OX2K	OZ1ACB	UA9FAR	W7YS
3ZØKLS	SP2PHA	BV9G	BV8BC	GBØHI	GØWRE	OY/DG2TM	DG2TM	UA9QA	RW9QA
4J4K	TA2ZV	BVØFDX/9	BV6HJ	GM5VG/P	GM3UTQ	OY/DL2SWW	DL2SWW	UA9QGB	RW9QA
4K1F	UT5UGR	BW2ØØØ	JH1RJW	GØEVV/p	GØEVV	OY/DL2VFR	DL2VFR	UA9RH	RW9QA
4L1W	LY2MM	BX5AA	BV5GQ	H4ØMY	JAØIXW	OY3QN	OZ1ACB	UA9RQ	RW9QA
4L26MAY	4L1DA	BY1DX	OH2BH	HBØ/DA1WA	DJØLC	OZ1RDP	DL9BCP	UAØFZ	IK2DUW (others)
4L4KW	KE1HZ	C6AKA	DL7VOG	HBØ/DL4MP	DL4MP	P49V	AI6V	UAØFZ	W3HNK (USA)
4N7N	YU7WW	CN2DX	HB9HLM	HC8N	AA5BT	PV5ØWD	PT2TF	UE9OWD	UA9OW
4O8/9XØA	RW3AH	CN8NK	EA5XX	HG1G	1996 HA1KSA	PX2W	PY2YU	UEØLEZ	UAØMF
4OØA	YU1SRS	CO6XN	HK6DOS	HG1H	1996 HA1KSA	PY2KC	W3HC	UEØLMF	UAØMF
4S7BRG	HB9BRM	CO8LY	EA7ADH	HG1ØØR	1995 HA1KSA	R1AND	DL5EBE	UN2O	IK2QPR
4S7SW	ON6TZ	CO8TW	EA3FQV	HG1P	1996 HA1KSA	R1FJV	UA3AGS	UN7PCZ	DL8KAC
4S7VK	DJ9ZB	CO8ZZ	DK1WI	HG1S	HA1KSA	R2/LY4AA	N6FF	UO8I	RK3BY
4S7YSG	JA2BDR	CP6XE	IK6SNR	HG73DX	HA1KSA	RAØLOM/Ø	UAØMF	UP9L	US7IID
4W/JA1BK	JM1KNQ	CT3BX	HB9CRV	HGM1H	1996 HA1KSA	RD4M	UA4LU	UV5Q	UX7QQ
4W6GH	CT1EGH	CU3DJ	N4JB	HGØNAR	HAØNAR	RH1A	RU1AE	UW7Q	UR7QM
4W6SP	9A2AA	CU8/DL8AAV	DL8AAV	HS4BPQ	E21EIC	RH1B	RZ1AWO	UXØFF	EO6F
5B4/RS3A	UA4RC	CW6V	W3HNK	HSØ/G4DZC	AA1ON	RH1C	RV1AQ	UZ2H	UT5HA
5B4/RW9UP	RW9UP	CW72PDD	CX1UU	HSØ/OH4MFA	OH4MFA	RH1F	RV1AC	V25A	N3OC
5B4/UA4RC	UA4RC	CX5X	W3HNK	HVØA	IKØFVC	RH1H	RV1CC	V26O	N5NJ
5B4AGD	YU1FW	CX6VM	W3HNK	IBØ/IKØGDG	IK0GDG	RH1J	RA1ACJ	V26OC	N3OC
5H1/PA3GIO	PA3GIO	D2BF	EA8EE	II1R	I1NVU	RI1P	RN1ZZ	V29TBK	G3TBK
5H3/PA3GIO	PA3GIO	D3SAF	I3LLH	IIØIKE	IKØIKE	RM9RA	RW9QA	V31MD	KB6NAN
5H3US	WA8JOC	D7ØØEVM	HL5FXP	IL7/IK4GLV	IK4GLV	RM9RM	RW9QA	V44KJ	WB2TSL
5K9AQ	HK3PXA	E2ØHHK	E21EIC	IL7/IK4JPR	IK4JPR	RM9RO	RW9QA	V63CP	JH1BLP
5N3CPR	SP5CPR	E2ØREX	E21EIC	IL7/IK4RUX	IK4RUX	RM9RX	RW9QA	V63CV	JP1WDM
5N9EAM/8	IK7JTF	E4/OK1FHI	OK1FHI	IQ3JAC	IK3GES	RM9RX/9	RW9QA	V73GT	WF5T
5R8FU	SMØDJZ	E4/OK2BZM	OK2BZM	IR4RCR	I4GAS	RM9RZ	RW9QA	V85QQ	DF5UG
5V7MN	DF8AN	E41/OK1DTP	OK1TD	IUØFM	IØYKN	RMØM	UAØMF	VI15ØSYD	VK2PS
5X1P	G3MRC	EA3BT/EA5	EA3BT	IV3KTY/p	IV3KTY	RN9RZ	RW9QA	VI2AUS	VK2PS
6Y8A	WA4WTG	EA6/OZ6B	OZ6B	J28/F5LDY	F5LDY	RQØJ	RZØJWA	VI2PS	VK2PS
7X2CR	IS0LYN	EA7/OZ6B	OZ6B	J28EW	F5LDY	RW9C	UA9CGA	VI2TAS	VK2PS
8J7WGC	JARL	EA8/EH5CPU	EA8EE	J28NH	F5IPW	RW9QA	W3HNK	VI8NSW	VK2PS
8J9AAA	JA9XTJ	ED2VAC	EA2CHT	J3/AA1ON	AA1ON	RW9RN	RW9QA	VK2DIK	VK2PS
8M2ØØØ	JARL	ED2VDB	EA2URV	J45KLN	SMØCMH	RZ1OA/p	RZ1OA	VK2RSY	VK2PS
8Q7NG	DL1NG	ED3ECD	EA3URE	J73DLR	DL2YY	S500S	S59L	VK2WI	VK2PS
9A16D	9A5ST	ED3PMT	bureau	J73DLR	DL2YY	S5A	S59L	VK8AN/P	VK4AAR
9A1ØC	9A7K	ED5MUC	EA5VM	JT1FCY	I1QOD	S5ØØS	S59L	VK9WI	VK4APG
9A7K/p	9A7K	ED7URX	EA7ATR	JT1FCZ	I1ZB	SD5DS	SM5BDY	VP2EY	HB9SL
9A9JH	DL89JH	ED9PSF	EA9CE	JT4Y	IØSNY	SI3SSA	SM3WMV	VP5/K2DO	K2DO
9A9ØØZ	9A2DM	EJ7NET	EI6FR	JT4Y	IØSNY	SI9AM	SM3WHU	VP5/N2GA	N2GA
9G1MR	IK3HHX	EK3GM	IK2QPR	JTØTJ	HA1KSA	SNØEMK	SP9PLR	VP8DBN	G7BSP
9H3AAB	DL9NDS	EK6RF	KZ5RO	JU1O	HAØW	SO1VOX	DL7VOX	VQ9NL	W4NML
9H3AY	G3SDG	EK6TA	DJØMCZ	JU4Y	IØSNY	SØSSB	EA1BPC	VQ9QM	W4QM
9J2BO	W6ORD	EL2DT	IKØPHY	JW3YJA	LA3YJA	SU9ZZ	OM3TZZ	VU3GTF	VU2VIT
9K2SS	KB2MS	EM1KY	UT7UA	JW5DW	LA Buro	SV/OK1YM	OKDXF	VU3VLH	OK1MM
9K2ZM	9K2RA	EM7ØDXG	UT1WA	JW5LJA	LA5LJA	SV5/DL3DRN	DL3DRN	W3WKP/VP9	W3WKP
9M2/G3LIV	G3LIV	EO225EA	UT2EA	JW7FJA	LA7FJA	SV8/DL6UCW	DL6UCW	W5AA/TI8	W5AA
9M2/GM4YXI	GM4YXI	EO55FI	UX3FW	JW8LGA	LA8LGA	SV8/GM3YOR	GM3YOR	W5RRR	direct or KG5U
9M2F	JI1ETU	EO6F	UXØFF	JY9NE	N3FNE	SV8/I2YYO	IK2MYX	WL7KY	NU4N
9M6AAC	N2OO	EP2MKO	RU6FZ	JY9NX	JH7FQK	SV9/DL8YRM	DL8YRM	XT2PT	N5DRV
9M6QQ	DF5UG	EP3SP	IZ8BRI	JY9NX	JH7FQK	SV9/G3NYY	G3NYY	XU7AAR	XW2A
9M8QQ	DF5UG	ER6A	ER1LW	KH5/N4BQW	K4TSJ	SV9/G4FRE	WW2R	XU7AAS	SP5AUC
9N1AA	N4AA	EX1F	EX8F	KH5K/N4BQW	K4TSJ	SV9/G4VXE	G3SWH	XU7ABF	XW2A
9N7YT	JJ2NYT	EX7MD	EX8F	KH6ND/KH5	K4TSJ	SV9/G7FRE	N2NQI	XV9SW	SM3CXS
9V1BG	JL1MWI	EX8M	EX8F	KHØJA1XGI	JA1XGI	SV9/OZ6B	OZ6B	XX9TKW	OH2KW
9V1GA	JA4BJO	EX8MCA	EX8F	KHØ/JA3EYO	JA3EYO	SW1OF	SV1DKL	YA9KA	pirate
9X/RV6LNA	RV6LNA	EX8MCO	EX8F	KHØ/N3WW	JF2WXS	T7AA	IZ8CKT	YB3OSE	W7TSQ
9Y4/DL2RVS	DL2YY	EX8MKF	EX8F	KL1SLE	NU4N	T88SH	K7USJ	YBØJWA	W3HNK
A35RK	W7TSQ	EX8MMS	EX8F	KL7FH	NU4N	T88VB	JM1VBW	YI1AK	AD5W
A41KL	N7RO	EX8W	EX8F	KL9A	NU4N	T94CQ	VK4DX	YI9CW	SP5AUC
A47/N5JEH	N5JEH	EY8/ON6TT	ON5NT	L62E	LW2EU	T95DXT	IZ8DBJ	YI9OM	OM6TX
A52JS	VK9NS	EZ7ST	pirate	LA/OZ6B	OZ6B	T99T	9A2AA	YJ8UU	ZL2HE
A61AO	N1DG	F5XX/p	F5XX	LP1F	LU5FC	TA3DD	KB2MS	YM3D	TA3D
A61AP	IK7JTF	F8KTR/p	F8KTR	LP2F	LU2FT	TE1W	TI5KD	Z34A	Z31ET
A61AQ	N1DG	FG/F5SNY	F5SNY	LX9UN	LX1NJ	TE6U	TI5KD	Z34M	Z31FK
A61AT	IT9ZGY	FG5FR	F6FNU	LXØSAR	DL5VU	TF3IRA	TF3GB	ZA/N5NW	KB4KC

Is Your Shack Grounded?



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ALASKA

South Central Radio Club. 8023 E. 11th Ct., Anchorage, AK 99504. Meets 2nd Fri./monthly, 7 p.m., UAA Business Ed. Bldg., Rm. 220. KL7CC, (907) 338-0662. Info: club rptr 146.97(-) PL 103.5Hz 10/00

ARIZONA

Arizona Repeater Association. P.O. Box 35758, Phoenix, AZ 85069-5758. Operates 20 VHF & UHF rptrs. in AZ. Meets 4th Thurs./monthly, 7:30 p.m., APS Shure Building, 2124 W. Cheryl, Phoenix, AZ. Info:www.goodnet.com/indirect/www/ara 12/00

Cochise Amateur Radio Assn., (CARA). Meets 1st Mon./monthly, 7:30 p.m. at club facility on Moson Rd., Sierra Vista, AZ. K7RDG/R 146.76(-) rptr. PL162.2. 5/01

Old Pueblo Radio Club, (OPRC). P.O. Box 42601, Tucson, AZ 85733. Meets 2nd Wed./monthly, 7:15 p.m., Tucson Med. Cntr., Grant & Beverly St. in the AZ Rm. of the Volunteer's Bldg. (1st bldg. on the left going north off Grant). 2/01

CALIFORNIA

Amador County Amateur Radio Club. P.O. Box 1094, Pine Grove, CA 95665. Meets 1st Thurs./monthly, 7:30 p.m., Jackson Sr. Cntr., 229 New York Ranch Rd., Jackson, CA. Info: 146.835(-). 5/01

Amateur Radio Club of Anderson, (ARCA). Meets 2nd Thurs./monthly, 7:30 p.m., VFW #9650, 3210 W. Center St., Anderson, CA. Net every Tues., 7:30 p.m. on 146.640 freq. Website: www.snowcrest.net/bgorski/index.html 2/01

Beach Cities Wireless Society. P.O. Box 4016, San Clemente, CA 92674. Meets 2nd Thurs./monthly, 7:30 p.m., Ole Hansen Beach Club, 105 W. Avenida Pico, San Clemente. Rptr. 146.025(+) PL 110.9. 9/00

Clairemont Rpt. Assoc. Meets bi-monthly brkfst mtg, 3rd Sat./odd no. months, Westminster, CA. Info: send SASE to P.O. Box 7675 Huntington Bch, CA 92615 or W6UTE in Call Bk. Net ea. Tue., 7 p.m. 145.220(-)PL 103.5 in So. CA 3/01

Coachella Valley ARC. Box 11092, Palm Desert, CA 92255-1092. Meets 2nd Wed./monthly, 6:30 p.m., Portola Com. Cntr., 45480 Portola, Palm Desert. Info: Bill Dews, (760) 346-8611. Net Thurs. 7 p.m. 146.025(+) PL 107.2. 5/01

Contra Costa Communications Club, Inc., WD6EZC/R. P.O. Box 20661, El Sobrante, CA 94820-0661. Meets 2nd Sun./monthly (except May & Dec.), 08:00, Denny's, El Cerrito, CA 145.110 PL 82.5 Info: S. Clark, KB6SEI, (510) 724-0158. 2/01

Cupertino ARES (CARES). Meets 1st Thurs./monthly, 7:30 p.m., Cupertino City Hall, CA. Net ea. Tues. 7:45 p.m. on 147.57 simplex. EC - Jim Oberhofer, KN6PE. www.zoy.net/CARES 6/01

Downey Amateur Radio Club Inc., W6TOI. Meets 1st Thurs./monthly, 7:30 p.m., So. Middle Sch. cafetorium, 12500 S. Birchdale, Downey, CA. VHF net W6GNS rptr. 146.175(+) Thurs.,7:30 p.m. http://www.downeyarc.org. Info L. Vaughn, kd6nzw at kd6nzw@downeyarc.org 6/01

El Dorado County Amateur Radio Club. P.O. Box 451, Placerville, CA 95667. Meets 4th Tues./monthly, 7:15 p.m., Federated Church, 1031 Thompson Way, Placerville. Web: hhp://edcarc.tripod.com. Net: Thurs., 7:30 p.m. 147.825(-) PL 82.5 6/01

Fresno Amateur Radio Club. Meets 2nd Fri./monthly, 7:30 p.m., Ernie Pyle School, 4140 N. Augusta, Fresno, CA. 146.94(-) 223.94(-). 11/00

Golden Empire Amateur Radio Society, (VEC). P.O. Box 508, Chico, CA 95927. Club call W6RHC, rptr. 146.85(-). Meets: 3rd Fri./monthly, 7:30 p.m. at 345 Cherry St. (Library Rm.), Chico. 5/01

Golden Triangle Amateur Radio Club. P.O. Box 1335, Wildomar, CA 92595. Meets 4th Mon./monthly, 7 p.m., Beverly Health Care, 24100 Monroe Ave., Murrieta, CA 92562. Rptr: W6GTR 146.805(-) PL 100. Info: H. Wijma, AC6VN, (909) 693-2383. E-mail: ac6vn@cs.com 8/00

Livermore Amateur Radio Klub, (LARK). Meets 3rd Sat./monthly, 9:30 a.m., City Council Chamber, 3575 Pacific Ave., Livermore, CA. Net Mon. 1900 on 147.12(+). Info: LARK Sec., P.O. Box 3190, Livermore, CA 94551-3190. (925) 373-1386. 2/01

Los Banos Amateur Radio Club. Meets 2nd Sat./monthly, 7 p.m., Los Banos Police Admin. Annex Bldg., 535 J St. Info: M. Germino, AD6AA, (209) 826-0903, E-mail: AD6AA@arrl.net. Net 147.060(+) PL 107.2 every Thur. 7 p.m. Rpt. KB6NMP 147.06(+) PL 107.2 & 444.00(+) PL 241.8. http://www.qsl.net/lbarc/ 6/01

Motorcycling Amateur Radio Club. Meets 2nd Sat./monthly, 8 a.m., Lake View Cafe, 2099 E. Orangethorpe, Placentia, CA, 91 Fwy/Lakeview. Info: R. Davis, KD6FHN, (949) 551-1036 or (949) 551-2010. 5/01

Mount Diablo Amateur Radio Club. P.O. Box 23222, Pleasant Hill, CA 94523. Meets 3rd Fri./monthly, 7:30 p.m., Our Savior's Lutheran Ch., 1035 Carol Ln, Lafayette, CA. Net Thurs. 7:30 p.m. on 147.06(+) PL 100Hz. Info: (510) 932-6125. 8/00

Nevada County ARC. Meets 2nd Mon./monthly, 7 p.m., Salvation Army Bldg., 10725 Alta St., Grass Valley, CA. Net Tues. 7 p.m. 147.015. Info L. Johnson, KE6HWE, lindasue@mail.telis.org. (530) 273-2008. 9/00

North Hills Radio Club. Meets 3rd Tue./monthly, 7:30 p.m., Carmichael Elks Lodge, 5631 Cypress, Carmichael, CA. Nets 8 p.m. Tue., (except 3rd Tue.) & Thur., 145.190(-) (PL 162.2 Hz) & 224.400(-) MHz. Info: B. Griffin, N6WWY, (916) 729-7117. E-mail: nhrc@ K6IS.org or http://www.k6is.org 4/01

Orange County Amateur Radio Club. Meets 3rd Fri./monthly, 7:30 p.m., Orange County Red Cross, 601 N. Golden Circle, Santa Ana, CA. Talk-in 146.550 (S). Contact Parry Hoffman, K6LDC, (714) 636-4345 WWW.W6ZE.ORG 2/01

Poinsettia ARC. Meets 1st Thurs./monthly, 7:30 p.m., First Christian Ch., Telegraph Rd. & Teloma Dr., Ventura, CA. Info: J. Casper, N6PIQ, (805) 649-1445. 6/01

Redwood Empire DX Assoc., W6KB. P.O. Box 455, Santa Rosa, CA 95402. (707) 544-4944. DX & contest club. Dinner mtg. 3rd Wed./monthly, 6:30 p.m., Carrows Rest., Hwy 101 & E. Washington, Petaluma. www.redxa.com 12/00

River City A.R.C.S. Meets 1st Tues./monthly, 7 p.m., SMUD Bldg., Don Julio at Elkhorn, Sacramento, CA. License classes offered. Info: (916) 492-6115.10/00

Sacramento Amateur Radio Club. Meets 2nd Wed./monthly, 7 p.m. Sac. Blood Ctr., 32nd St. & Stockton Blvd., Sacramento, CA. Info net, noon on rptr. W6AK/R 146.91(-). T. Preston, KC6EO, (916) 722-9358 or L. Ballinger, WA6EQQ, (916) 393-4775. 4/01

Sacramento "Old Timers" Amateur Radio Society and Sacramento Valley Chapter #169 QCWA (Quarter Century Wireless Assn.). Meets 2nd Wed./monthly, 8 a.m., Lyon's Rest., 1000 Howe Ave., Sacto. CA. Info: Paul Wolf, W6RLP (916)489-8112. 12/00

Shasta Cascade Amateur Radio Society, (SCARS). P.O. Box 493549, Redding, CA 96003. Meets: 3rd Wed./monthly (Sep-May), 7:30 p.m. at the C.D.F. Conf. Rm. Grape St., near Parkview Ave., Redding, CA. Net 146.64, Wed., 8 p.m. 3/01

Sierra Foothills ARC. P.O. Box 1005, Newcastle, CA 95658. Meets 2nd Fri./monthly, 7:30 p.m., Auburn Library (Beecher Rm.), 350 Nevada St. Thurs. nets 7:30 p.m. 145.430(-) PL 94.8. 6/01

Sonoma County Radio Amateurs, Inc. W6LFJ. P.O. Box 116, Santa Rosa, CA 95402, (707) 579-9608. Meets 1st Wed./monthly, 7:30 p.m., Agilent Tech., 1400 Fountain Grove Pkwy , Santa Rosa. Net ea. Tues., 7 p.m. W6SON. Rptr. 146.73(-) PL 88.5. www.cds1.net/scra 12/00

South Bay ARC. P.O. Box 536, Torrance, CA 90508. Meets 3rd Thurs./monthly, 7:30 p.m., Torrance Memorial Hosp., 3330 Lomita Blvd., Torrance, CA. Talk-in on WB6MYD rpt. 244.38(-). Info: (310) 328-0817. 8/00

Southern California Six Meter Club. P.O. Box 10441, Fullerton, CA 92635. USB Net Tue., 8:00p.m., 50.150. FM Rpt. Net Thurs., 7:30 p.m., 52.86/52.36 tx. FM Smplx, call freq. 50.300. Net Sun., 10 a.m. 50.40. 12/00

Stanislaus Amateur Radio Assoc., Inc. (SARA). P.O. Box 4601, Modesto, CA 95352. Meets 3rd Tues./monthly, 7:30 p.m., NW Modesto Police Station, 2005 Evergreen, Ste. 600. Net 1.2+4 Tues. 7:30 p.m. 145.390(-) PL 136.5 2/01

Tehachapi-Southern Sierra ARS. Meets 2nd Thurs./monthly, 7 p.m., except July, 125 East F St., Tehachapi, CA (Veteran's Hall). Info: KD6KMN, (661) 822-5995. www.ssars. net, 147.06(+), 224.42(-) PL 156.7. Pkt 145. 090(S) connect to W6PVG-7. ARES nets 7 p.m. 147.51(S) Mon. 1/01

Trinity County ARC. P.O. Box 2283, Weaverville, CA 96093. Meets 2nd Wed./monthly, County Sch. Adm. Bldg., Weaverville, 7:30 p.m. Rptrs: WA6BXN 146.73(-) PL 85.4, W6HOR 146.925(-) PL 85.4. 2/01

United Radio Amateur Club, K6AA. L.A. Maritime Museum, Berth 84, Foot of 6th, San Pedro, CA 90731. Meets 3rd Fri./monthly (except Dec.), 7:00 p.m. Monitors 145.52 Simplex 10 a.m.-5 p.m. 8/00

Vaca Valley Radio Club. Meets 2nd Wed./monthly, 7:30 p.m. (Board mtg., 7 p.m.) Vaca Fire Dist. Stn., Vine St., Vacaville, CA. Rptr. WD6BUS 145.47(-) PL 127.3. Jim Bullington, (707) 446-4347 8/01

Victor Valley Amateur Radio Club. P.O. Box 869, Victorville, CA 92392. Meets 2nd Tue./monthly, 7 p.m., The Lewis Cntr, 20702 Thinderbird Rd., Apple Valley, CA. Talk-in 146.94(-), PL 91.5. Net Sun. 7 p.m. 146.94(-) 3/01

West Coast Amateur Radio Club, (WCARC). P.O. Box 2617, Costa Mesa, CA 92628. Meets 3rd Thurs./monthly, 7 p.m., Fountain Valley Sch. Dist. Office, 17210 Oak St., Fountain Valley, CA. Info: Jane, KD6ODV, (714) 531-6707 2/01

Westside Amateur Radio Club - Los Angeles. P.O. Box 11092, Marina del Rey, CA 90295. Meets 4th Tues./monthly, 7:30 p.m., ARC Bldg., 11355 Ohio Ave., W. L.A., CA (VA Cntr. grounds). Net Tues., 8 p.m. 147.195+, PL100, except mtg. night. Website: http://www.qsl.net/wa6rc Messages: (310) 848-1354 9/00

Willits Amateur Radio Society, (WARS). P.O. Box 73, Willits, CA 95490. Meets 4th Mon./monthly, 7 p.m., Brooktrails Fire Dept. 2 NW Willits http://www.saber.net/wars. Talk-in: 145.13(-), PL 103.5. 9/00

Yolo Amateur Radio Society. Meets 1st Tues./monthly, 7:30 p.m., Davis Explorit! Science Cntr, 3141 5th St., Davis, CA. Contact Dave Nishikawa, KC6YFG, (916) 756-6375/Talk-in 144.430. 3/01

COLORADO

Boulder Amateur Radio Club (BARC). Meets 3rd Tues./monthly, 7:30 p.m., NIST rm 1107, 325 So. Broadway, Boulder, CO. Talk-in:146.70(-). Info: (303) 380-6540, e-mail: BARC5Ø@arrl.net or www.thisistrue.com/barc.html 8/00

CONNECTICUT

Tri-City Amateur Radio Club. P.O. Box 686, Groton, CT 06340-0686. Meets 2nd Tue./monthly, 7 p.m., St. Lukes Lutheran Church of Gales Ferry on Rt. 12. Info: B. Dargel, KA1BB, (860) 739-8016. 8/00

Western CT. DX Club. Meets 1st Tues/monthly, 8 p.m., Brookfield Com. Cntr. (on Pocono Rd. across from Brookfield P.O.) Info: contact Victor at: victoras@EROLS.com 8/00

FLORIDA

Gulf Coast ARC. P.O. Box 595, New Port Richey, FL 34656. Meets 4th Mon./monthly, 7:30 p.m., Marchman Tech. Ed. Cntr., 7825 Campus Dr., Bldg. C, Rm C122, New Port Richey. WA4GDN rptrs. 146.67(-) & 145.33(-), serving all of Pasco County. 11/00

Lake Monroe Amateur Radio Society. P.O. Box 151353, Altamonte Springs, FL 32715. Meets 1st Thurs./monthly, 7:30 p.m., Casselberry Sr. Cntr., Lake Triplett Dr., Casselberry, FL. Info: K. Lambert, KB4DCR, (407) 359-7767 10/00

Port St. Lucie ARA. P.O. Box 7461, Port St. Lucie, FL 34985. Meets 2nd Fri./monthly, St. Andrews Lutheran Church, 295 Prima Vista Blvd. Contact: Roy Cox, (561) 340-4319. www.qsl.net/pslara or 146.955-. 11/00

South Brevard Amateur Radio Club. P.O. Box 2205, Melbourne, FL 32902. Meets 1st Tue./monthly, 7 p.m., Public Library, 540 Fee Ave., Melbourne, FL. 12/00

GEORGIA

Cherokee Capital ARS. Meets 2nd Tue.monthly, 7 p.m., New Echota Methodist Church, 488 Red Bud Rd., Calhoun, GA. 146.805(+). Info: Felton Floyd, AF4DN, (706) 629-0369. 1/01

Dalton Amateur Radio Club, Inc., (DARC). P.O. Box 143, Dalton, GA 30722-0143. Meets 4th Mon./monthly, 7:30 p.m., Magistrate Court Bldg., corner of Waugh St. & Thornton Ave., Dalton, GA. Info: Harold Jones, N4BD, 706/673-2291. 5/01

Gwinnett Amateur Radio Society, (GARS). P.O. Box 88, Lilburn, GA 30048. Meets 3rd Thurs./monthly, 7:30 p.m., Gwinnett Central Baptist Church on Gwinnett Dr., Lawrenceville, GA. 147.075+ PL 82.5. Contact: Mike Swiderski, K4HBI, (770) 449-0369. 8/00

HAWAII

Big Island Amateur Radio Club. P.O. Box 1938, Hilo, HI 96721. Meets 2nd Sat./monthly, 2 p.m., Keaau Community Ctr., behind Fire Station on Old Volcano Rd., Keaau. Talk-in on 146.88(-). Lunch, 11 a.m. Fridays, Hilo Hawaiian Hotel - Queen's Court Restaurant. 9/00

Emergency Amateur Radio Club, (EARC). P.O. Box 30315, Honolulu, HI 96820-0315. Meets 4th Thurs./monthly, 7 p.m., Lincoln Elementary. School, 615 Auwaiolimu, Honolulu. Nets: nightly 7:30 p.m., 146.88 & 146.80. Rptrs: 146.76(-), 146.80(-), 146.88,146.98(-), 146.94(-). Info: (808) 256-6001, WH6CZB. 12/00

Koolau Amateur Radio Club, (KARC). 45-145 Mikihilina St., Kaneohe, HI 96744. Meets 2nd Sat./monthly, 9:30 a.m., Hoomaluhia Botanical Garden., Kaneohe, HI. Info: (808) 235-3042. http://www.chem.hawaii.edu/karc/ 8/00

ILLINOIS

Chicago FM Club Inc., (CFMC). P.O. Box 1532, Evanston, IL 60204. 146.76(-) PL 107.2/224.10/224.18/443.75 PL 114.8. Ham help line: (773) 262-6773. Info net Tues., 9 p.m. on 146.76(-). Meets 3rd Wed./monthly, 8 p.m. 8/01

Dupage Amateur Radio Club. (DARC). P.O. Box 71, Clarendon Hills, IL 60514. Meets 4th Mon./monthly, 7:30 p.m., Fire Station #3, between 59th & 63rd, Westmont, IL. Net Sun., 9 p.m. on 145.250. W9DUP rpts. 145.25(-) 107.2PL, 442.550(+) PL 114.8, 224.68(-). Info: (630) 985-9256 10/00

Fox River Radio League. P.O. Box 673, Batavia, IL 60510-0673. Meets 2nd Tue./monthly, 7:30 p.m., Old Bank Bldg., 900 No. Lake St., lower level, Northgate Shopping Ctr. & Rt. 31, Aurora, IL. 8/00

Peoria Area Amateur Radio Club, (PAARC). P.O. Box 3508, Peoria, IL 61612-3508. Meets 2nd Fri./monthly, Red Cross Chapter House, 311 W. John Gwynn Jr. Ave., Peoria, IL. Voice mail: (309) 692-3378. Rptrs: 147.075(+) & 146.85(-). 8/00

Schaumburg ARC. P.O. Box 68251, Schaumburg, IL. Meets 3rd Thurs./monthly, 7 p.m., Rec. Center, Bode and Springinsguth Roads. (630) 612-9446. http://members.aol.com/sarcradio 10/00

The Starved Rock Radio Club, W9MKS. P.O. Box 198, Tabor St., Leonore, IL 61332. Meets 1st Mon./monthly, 7 p.m. Rptr. net 7 p.m. Wed./wkly., 147.12(+) PL 103.5. Web: http://www.qsl.net/w9mks E-mail: w9mks@qsl.net 6/01

Wheaton Community Radio Amateurs, (WCRA). P.O. Box QSL, Wheaton, IL 60189. Meets 7:30 p.m., 1st Fri./monthly, College of DuPage, Wheaton, IL. Rptrs: 145.39(-) (107.2), 224.14(-), 444.475(+) (114.8). Info: Ron Hensel, K9ZE, (630) 365-0213, k9zze@aol.com 8/00

LOUISIANA

Baton Rouge ARC. Meets last Tue./monthly, 7 p.m., Catholic High School, 855 Hearthstone Dr., Baton Rouge, LA. Net: 146.79MHz, 8:30 p.m. Sun. www.brac.org. E-mail: W5GIX@aol.com. 11/00

MAINE

Androscoggin Amateur Radio Club. Meets 1st Wed./monthly, 7 p.m., Auburn Police Station, 1 Minot Ave., Auburn, ME. Info: (207) 782-8699. 7/01

MARYLAND

Maryland Mobileers Amateur Radio Club (MMARC). P.O. Box 935, Severn, MD 21144. Meets 1st Fri./monthly, 7:30 p.m., Baldwin Hall, Generals HWY, Millersville. Info net each Mon. 8:30 p.m. on 146.805(-), tone 107.2 Hz. http://www.qth.com/mobileers 7/01

MASSACHUSETTS

Genesis Amateur Radio Society. P.O. Box 1234 Plymouth, MA 02362. Meets last Mon./monthly, 7:30 p.m. at Plymouth Airport, So. Meadow Rd. Tues. net: 146.685, W1LM, 8 p.m. 7/01

MICHIGAN

Chelsea Amateur Radio Club, Inc., WD8IEL Meets 4th Tues./monthly, 7 p.m., Key Bank, 1478 Old Chelsea-Manchester Rd., Chelsea. Info: Bill Altenberndt, WB8HSN, (734) 475-7938 Rpt: 145.450(-). 5/01

Genesee County Radio Club, Inc. Meets 3rd Tues./monthly, 7:30 p.m., Genesee Area Skill Center, Torrey Rd., Flint, MI. (810) 733-2082. 3/01

Hiawatha Amateur Radio Assoc. of Marquette Co. P.O. Box 1183, Marquette, MI 49855. Meets 1st Thurs./monthly, 7:30 p.m., 108 Stratofort, K.I. Sawyer AFB, MI. For info contact: Richard Schwenke, N8GBA, (906) 249-3837. 10/00

MISSISSIPPI

Jackson Amateur Radio Club, Inc. Meets 3rd Thurs./monthly, 7 p.m., Am. Red Cross Bldg., Riverside Dr., Jackson, MS 39202.11/00

West Jackson County ARC, Inc. Meets 3rd Tues./monthly, 7 p.m., Ocean Springs Crt. Rm., Ocean Springs, MS 1/01

MISSOURI

Macon County ARC. P.O. Box 13, Macon, MO 63552. Meets last Wed./monthly, 7 p.m., Macon R-I High Sch., rm.167. Net every Thurs., 8:30 p.m. 146.805. E-mail: nøpr@arrl.net 1/01

NEBRASKA

Ak-Sar-Ben ARC of Omaha. P.O. Box 24551, Omaha, NE 68124-1551. Meets 2nd Fri./monthly, 7:30 p.m., Red Cross, 81st & Spring St. http://www.qsl.net/k0usa 7/01

NEVADA

Frontier Amateur Radio Society, (FARS). Meets: 2nd Sat./monthly, bkfst. mtg. 9 a.m., Country Inn, 1990 West Sunset, corner of Valle Verde, Henderson, NV. Club info: Jim Frye, NW7O, (702) 456-5396 or Bill Scanborough, WA6ASI, (702) 269-9551 8/01

Sierra Intermountain Emergency Radio Assoc., (SIERA). Meets 2nd Tues./monthly, 7:30 p.m., Minden Med. Cntr, Hwy 395 & Ironwood Dr., Minden, NV. Info: George Uebele, WW7E, (775) 265-4278, ww7e@arrl.net, Rpt. 147.330 MHz. 1/01

NEW HAMSHIRE

Port City Amateur Radio Club, (PCARC), W1WQM. P.O. Box 1587, Portsmouth, NH 03802. Meets 1st Wed./monthly (Sept.-June), The Edgewood Ctr., 928 So. St., Portsmouth. Rptr. 146.805(-) PL 127.3, 110.9, 88.5. 11/00

NEW JERSEY

Bergen Amateur Radio Association, (BARA). P.O. Box 304, Hackensack, NJ 07601. Meets 1st Sun./monthly, New Milford Elks Lodge, Patrolman Ray Woods Dr., New Milford, NJ 07646. Nets: 28.350 Mon. 9 p.m.; 146.79(-) 9 p.m. Wed. 6/01

The Garden State Amateur Radio Assoc., (GSARA). Meets 1st & 3rd Wed./monthly, 8 p.m., MARS Bldg., Fort Monmouth, NJ. Info: B. Buus, W2OD, (732) 946-8615.12/00

South Jersey Radio Assoc., (SJRA), K2AA. Meets Jan.-Oct., 4th Wed./monthly, 7:30 p.m. (Nov.-Dec. 3rd Wed), Bloomfield Fire Hall in Pennsauken, NJ. Talk-in: 145.29(-) rptr. 8/01

NEW YORK

Amateur Radio Association of the Tonawandas, (ARATS). P.O. Box 430, No. Tonawanda, NY 14120. Meets 3rd Tues./monthly (except July & Aug.), 7:30 p.m., Sweeney Hose Co., 499 Zimmerman St., No. Tonawanda, NY. Talk-in: 146.955(-) rptr. W2SEX. 2/01

Genesee Radio Amateurs, (GRAM). P.O. Box 572, Batavia, NY 14021-0572. Meets 3rd Thurs./monthly, 7:30 p.m. (except Jul, Aug, Dec), Salvation Army Com. Cntr, 529 East Main St., Batavia, NY. URL: http://hamgate.sunyerie.edu/~gram 6/01

Hall of Science ARC. P.O. Box 150131, Kew Gardens, NY 11415. Meets 2nd Tue./monthly, Hall of Science Bldg., 47-01 111 St., Flushing Meadow Park, 7:30 p.m. Info: Voice mail (718) 760-2022. 3/01

PROS, Pioneer Radio Operators Society. Meets 1st Wed./monthly, 7 p.m., Sardinia Town Hall, Savage Rd., Sardinia, NY. K. Moon, N2IFG, (716) 652-0923. 6/01

The Radio Club of J.H.S. 22, N.Y.C., Inc. WB2JKJ. P.O. Box 1052, New York, NY 10002. 24-hr. hotline: (516) 674-4072. Fax: (516) 674-9600. E-mail: crew@wb2jkj.org. Non-profit org. using Ham Radio to enhance the education of youngsters, nationwide. Join us—"Class-room Net," 7.238 MHz, 7 a.m. E.S.T. PSE QSL! 10/00

South Towns Amateur Radio Soc. (STARS). Meets 1st Thurs./monthly, 7:30 p.m., Hamburg Youth Cntr, Prospect Ave.Hamburg, NY (exc. Jul, Aug @ NIKI Base). Info: N2TEZ, 180 University Ave., Depew, NY 14043. Web: www.cmp-express.com/stars. Rpt: WB2ELW 147.090(+) PL107.2 11/00

Suffolk County Radio Club, (SCRC). Meets 3rd Tues./monthly, 8 p.m., Bohemia Rec Ctr., Ruzicka Way, Bohemia, NY. Talk-in: 145.21(-) rpt. W. Black, KB2YAP, (631) 289-5587 7/01

Westchester Emergency Comm. Assoc., (WECA). Meets 2nd Mon./monthly, 7:30 p.m., Westchester County Ctr., White Plains, NY. Contact WECA INFO LINE (914) 741-6606 for details. Talk-in WB2ZII/R 147.06(+) PL 114.8/2A. 10/00

Westchester FM Repeater Ass'n. K2JQB Rptr. 146.91 MHz. Meets 3rd Thurs./monthly, 7-9 p.m., Yonkers Pub. Lib., 1500 Central Pk. Ave., Yonkers, NY, near S.E. cornor of Tucahoe Rd. Free Pkg. Info: Mark Grossman, K2CON at (718) 544-2370 or E-mail: K2CON@ hotmail.com 6/01

Yonkers Amateur Radio Club, (YARC). Meets 2nd Sun./monthly, 10 a.m., 1st Pct., Yonkers Police Station, E. Grassy Sprain Rd., Yonkers, NY. Info: P.O. Box 378, Centuck Sta., Yonkers, NY 10710. (914) 963-1021. 146.865(-), 440.150(+). 2/01

NORTH CAROLINA

Stanly County Amateur Radio Club. Stanfield, NC. Meets 4th Thurs./monthly, 7 p.m. Talk-in 146.985(-) for location. Wed. net 9 p.m. 146.985(-). Fri. tech net 9 p.m. 147.390(+). Ph: (704) 888-4815. www.mdsmm.com/scarc/ 5/01

OHIO

Ashtabula County ARC. Ken Stenback, W8KS (964-7316). County Vo-Ed School, Jefferson, OH. Meets 3rd Tue./monthly, 7:30 p.m., County rptr., 146.715(-). 1/01

Clyde Amateur Radio Society (CARS). Meets 2nd Tue./monthly, 7:30 p.m., Municipal Bldg., Clyde, OH 43410. NF8E rptr. 145.35(-) and 442.625(+) MHz. Net Sun. 9 p.m. Info: E. Remaley, KA8CAS. 10/00

Western Reserve Radio Assoc. P.O. Box 81252, Cleveland, OH 44181-0252. Meets 2nd Wed./monthly, 7:30 p.m., Jenkins Communications Cntr., Main St., Olmsted Falls, OH. Info: C. Bade, W8CJB, Sec., 146.73(-), 444.900(+) MHz. 10/00

OREGON

Central Oregon Radio Amateurs, Ltd. (CORA). P.O. Box 723, Bend, OR 97709. Meets last Thur./monthly, 7 p.m., Bend Sr. Ctr., 1036 NE 5th, Bend, OR. 146.940(-) MHz. Info: (541) 388-3831. 10/00

Central Oregon Coast ARC. P.O. Box 254, Florence, OR 97439. Meets 2nd Sat./monthly, at Bliss' Route 66 Restaurant at Hwy 101 & 12th St. Net Wed. 7 p.m., 146.80(-). Info: 997-2323 or 997-4074. 6/01

Hoodview ARC. P.O. Box 20624, Portland, OR 97220. Meets 3rd Thurs./monthly, 7:30 p.m., Mt. Hood Com. College/Gresham, Rm 1001. Rptrs: 147.28(+), 448.475(-5) (tone 167.9) 5/01

PENNSYLVANIA

Mercer County ARC, W3LIF. P.O. Box 996, Sharon, PA 16146. Meets 4th Tue./monthly, 7:30 p.m., Shenango Valley Med. Ctr, Farrell, PA. Net, Thurs. 9 p.m. on 145.35(-) W3LIF, Digi. 145.Ø5. 6/01

Mid-Atlantic ARC, (MARC), WSNWA. Meets 3rd Thurs./monthly, 8 p.m., Radnor Mem. Library, Wayne, PA. Rtrs 147.06, 145.13. Net, Sun., 8:30 p,m, http://www.marc-radio.org 11/00

TEXAS

Brazos Valley Amateur Radio Club, (B-VARC). P.O. Box 1630, Missouri City, TX 77459. Meets 1st Thurs./monthly, 7 p.m., Sugar Land Community Ctr., 226 Matlage Way., Sugar Land, TX. 12/00

VIRGINIA

Mt. Vernon Amateur Radio Club, (MVARC). Meets 2nd Thur./monthly (except Dec.), 7:30 p.m., Mt. Vernon Gov. Cntr, 2511 Parkers Ln., Alexandria, VA. Contact: Bob, KT4KS, (703) 765-2313. E-mail: mvarc@juno.com, http://www.mvarc.org/, Net: Tues. 8:30 p.m. 146.655-. 10/00

Ole Virginia Hams ARC, (OVH). Meets 3rd Mon./monthly, 8 p.m., Northern Virginia Electric Coop. Tech Cntr, 5399 Wellington Rd., Gainesville, VA. Info: Mary Lu, KB4EFP, (703) 369-2877. http://www.qsl.net/olevahams 3/01

Portsmouth ARC. Meets 4th Thur./monthly, 7:30 p.m., Am. Red Cross Chapter house, 700 London Blvd., Portsmouth, VA. Talk-in 146.850. Info: C.I Clements, Pres. (757) 484-0569. http://www.series2000.com/users/wa4nvi/parc/htm 6/01

Southern Peninsula Amateur Radio Klub, W4QR (SPARK). Meets 1st Tue./monthly Sal. Army Com. Bldg., Hampton, VA. Rptrs 146.73(-), 449.55(-). VE Exam Info: (757) 898-8031, W4RTZ. 3/01

Virginia Beach ARC. Meets 1st Thurs./monthly, 7:30 p.m., Virginia Wesleyan College, Wesleyan Dr. off N. Hampton, Village 2 Commons, Graybeale Bldg., Virginia Bch, VA. 2/01

WASHINGTON

The Mike & Key Amateur Radio Club. Meets 3rd Sat./monthly, 10 a.m., Salvation Army Renton HQ., 720 Tobin St., Renton, WA. Talk-in on 146.82(-) (103.5 CTCSS) rptr. Doors open 9:30 a.m. 5/01

VIRGINIA

Woodbridge Wireless, Inc. (WWI). Meets 2nd Tues./monthly, 7:30 p.m., Canteberry Woods Comm. Cntr.(corner of Springwoods & Chaucer), Lake Rige, VA. Talk-in 147.24(+). For info: http://www.pwcweb.com/wwi/ 7/01

WEST VIRGINIA

Jackson County ARC. Meets 1st Thurs./monthly, 7:30 p.m., St. John Episcopal Church of Ripley. Net Mon. 9 p.m. on 146.67(-) WD8JNU/R. Info: D. Tennant, N8ZYB, Rt. 1, Box 188, Mt. Alto, WV 25264. 7/01

Tri-State Amateur Radio Assn. Meets 3rd Tues./monthly, 7p.m., Museum of Radio & Tech., 1640 Florence Ave., Huntington, WV 25701. (304) 525-8890. 6/01

WYOMING

University ARC. Meets 1st Tues./monthly, 7:30 p.m., Univ. of WY, Engineering Bldg., rm. 2100, Laramie, WY. 146.01/61. 12/00

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Using the G5RV on 160 Meters

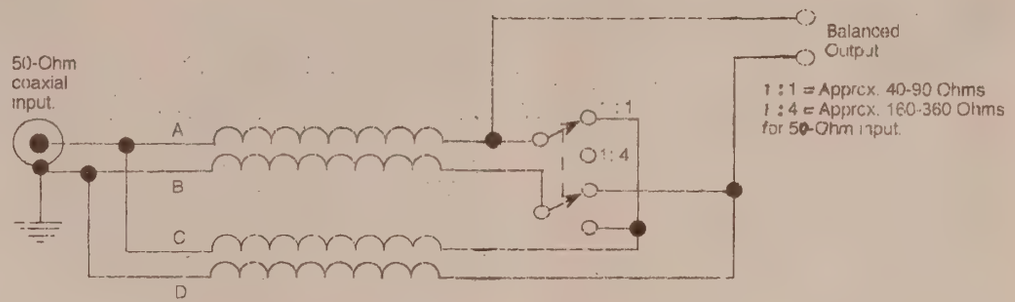
Al LaPlaca, W2WW

The evolution of this technique came about because I wanted to get back on 160 Meters. The only antenna I had up at the time was a homemade G5RV inverted-vee, fed with approximately 76 feet of 450-ohm window line (slotted twinlead). The experts will, of course, tell you that the use of such an antenna is a hopeless cause on 1.8MHz. But I am a Ham. I'm endowed with the undying optimism handed down to us from the spark days. Damn the experts — full speed ahead!

The first thing I tried was to simply tie the feeders together, in the shack, and, using a homemade CLC-type T-section tuner, I fed the entire antenna system as a top-loaded vertical antenna (sans radials). The vertical feedline acted as the antenna and the dipole sections of the G5RV acted as top-hat capacitive loading. This did work. But a vertical antenna without a radial or counterpoise system is not a very good antenna. Signals (in and out) were not what I expected.

The next thing tried was working the tuner, coax in/coax out style, into an old modified B&W air-core (current) balun assembly (Heathkit sold the same thing under their label, for a while). The modification I made consisted of the installation of a ceramic DPDT wafer switch at the output of the assembly so that the coil outputs were wired either in series or in parallel. Essentially providing either a 1:1 or 1:4 ratio of input-to-output impedance. See Figure 1. This provided balanced output for the feedline in either high or low impedance ranges. By making the correctly-switched impedance choice as I went from band-to-band on 80 through 10M, this configuration worked out pretty well. But, surprisingly, it also worked on 160M; even though B&W said the coils were not rated for use on that band. Well, mission accomplished! Signals were an improvement over the first lash up. I was back on 160M!

But while this did work on Top Band, signal reports were still not what I considered to be up to par. But I didn't know if that was because the coils were not really up to the job at that low a frequency, or because the antenna was so short for the frequency, or a combination of the two things. I had to find out.



SWITCHING ARRANGEMENT FOR B&W (OR HEATHKIT) AIR-CORE BALUN SET TO CONNECT THE OUTPUT IN EITHER SERIES OR PARALLEL FOR EITHER LOW-Z OR HIGH-Z OUTPUT

Figure 1

Phase III

This consisted of replacing the air balun with a homemade ferrite-core unun. I decided to build a 1:4 Ruthroff (current) unun. I purchased a 2.4-inch -61 Mix ferrite core from Palomar, and wound 13 bifilar turns of #18 enamel wire on it. (See Figure 2.)

Why an unun and not a balun? Good question. My reasoning was that a balun would treat the antenna as a balanced short dipole (which, in fact, it was, physically) but an unun would make one side of the feedline plus one side of the antenna "hot" and that an identical system, (the other side of the feedline and the other half of the dipole) would be "cold" (grounded: and would act as a counterpoise) and this would, effectively, make the whole system seem twice as long, electrically. And more efficient? Now I don't know if that's really true or not, but I do know that in less than a year of using this set up, I worked 47 states, 35 countries and made W.A.C. on 160M using only 100 watts. My best DX was a pair of back-to-back ZLs worked during a contest. This was a vast operational improvement over anything else I'd tried to date on that band. I must have been doing something right!

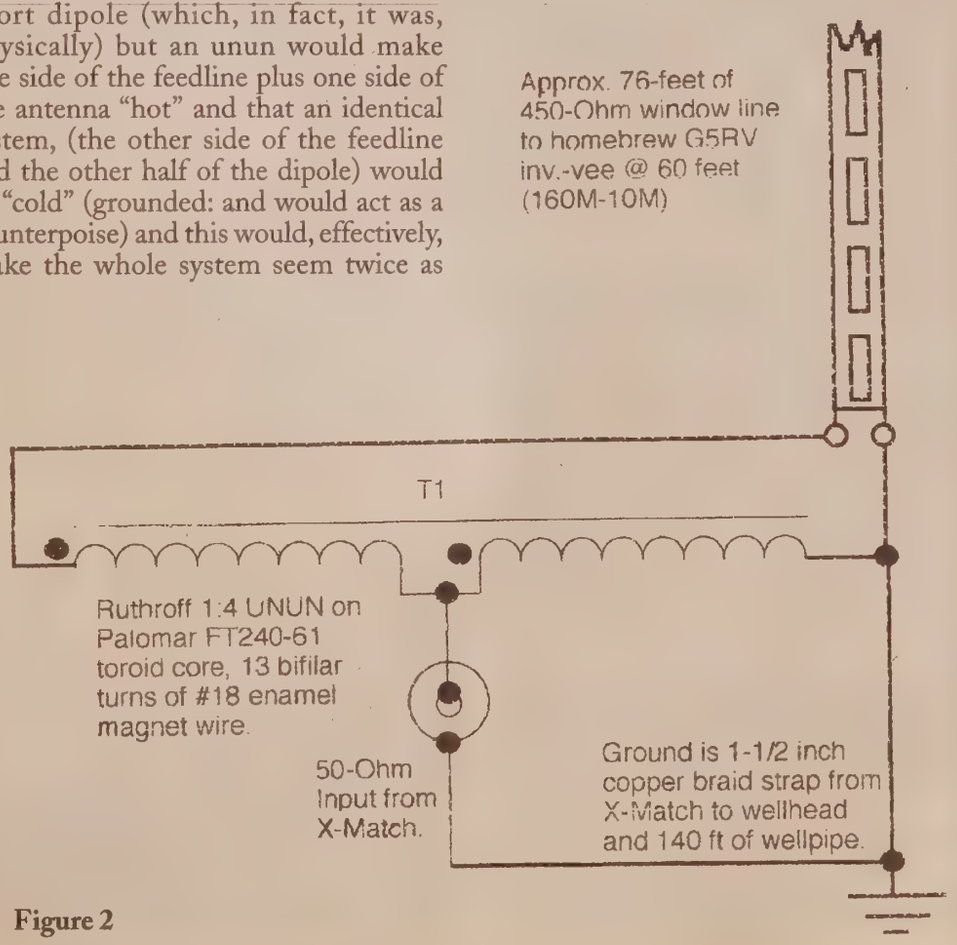


Figure 2

More on mobile noise

More on mobile noise later, but first, some observations on license upgrades from the restructuring. I have a number of Ham friends that were long-time Technician Class license holders. They have applied for the upgrade to General Class coming to them under the new rules. But I don't see a big rush to get HF equipment and get on their new bands. I'm a little disappointed because HF mobile would help us out on some of the caravan trips we take.

When I stop to think about it, none of these Hams would be classified as short-wave want-to-be's that settled for the easier license. They are on VHF and repeaters because that is what they wanted to do and many of them are quite proficient. Just as there are Hams settled in on HF who are completely uncomfortable with repeaters or computers, the long-time VHF operator may be hesitant to jump in to the different world of HF operating. When the need for HF asserts itself, I'm sure they will be joining us. In the meantime, I'm educating by example, and Elmering when they let me.

I mentioned one of our club's trips to the Mojave Desert in the last column. Specifically, I closed by saying that I was leaving for Goffs, California, a completely unique place. That brought me an e-mail from Jim Longthorne, WA6KPW, as follows (with my comments):

"Your next to the last paragraph in the June issue of ***Worldradio*** caught my eye...Goffs, California. Did you happen to be a part of the group of buggies 'doing' the Mojave Road while camping out in the back yard of the (Goffs) Schoolhouse around the second week of April? I was out there working on as many projects as I had fingers! (The Schoolhouse is a desert museum.) Dennis (our host) implied it was a CB group from Sacramento. Now, Dennis doesn't know much about radio and I don't have any bias against CB, but if I had known there were Hams involved (especially from ***Worldradio***) I would have taken some time to be polite and introduce myself!"

Thanks, Jim. What more could I have done besides having an HF mobile antenna on my S-10 Blazer? Actually, I was at fault, because I saw Jim's call letter plates with my flashlight one night and never followed up in the light of day. The two dune buggies that Jim saw, and thought were the inspiration for the cartoon on this column, were new acquisitions of long time friends Vern, W3DLY, and Trish, WA3GKT, from Lake Havasu, AZ, and some friends that came along. To set the record straight, the rest of us had 4WD vehicles, called SUVs by Yuppy exploiters.

HF mobile was pressed into service early on that trip when two of us were running hours late and I was able to contact Frank Clements, W6GZI, in camp, on 75 Meters from 160 miles out. This was another instance of education by example for the VHF only folks. To avoid giving the wrong impression, I operate on VHF as much as anyone. But I also operate on HF.

Ron, WB8NMK, in Ohio, sent an e-mail asking about the 3M sticky foil tape recommended in the June 1999 column by William Sayer, WA6BAN, for an antenna ground plane on a fiberglass motorhome. Ron wanted to e-mail William, but that submission was by snail-mail. Ron wanted to know where to put the foil tape. Good question. I may stand corrected, but I assumed that they ran it radiating from the antenna base, bonded to the coax shield connection at that point. Depending on the bands used, they may have even extended it far enough to reach the frame, or other metal. Anyone care to elaborate? William said the tape was available at hobby shops catering to stained glass workers.

Greg LaHaie, K7YDL, was among several pursuing the Ford fuel pump noise filter, but since his report gives added information, I'll let him tell about it: "Saw my name in the last ***Worldradio*** wondering about my RFI results. I am reporting in after finally deciding on what to try to reduce the fuel pump interference. Having received some e-mailed comments about the filter specified in Arnie Nielson's Technical Service Bulletin (TSB-99-12-9) I phoned Amidon Co. and spoke to John Ellison, their engineer familiar with RFI and ferrite toroids (Ph 714/850-4660). John was quite familiar with the source of interference from various fuel pumps, and suggested I enhance the performance of the Ford filter with two type 73 toroids. With a Mhu of over 4500 they are ideal for blocking RFI in the 4-30 MHz range. With the eight page TSB 99-12-9, my local dealer was able to install the modified filter, observing very short leads at the pump. The result was indeed positive: turning on the ignition without starting the car showed a reduction of RFI from a previous reading of as much as S5, down to about SØ to S1, or OVER 4 S-UNITS (not DB) of

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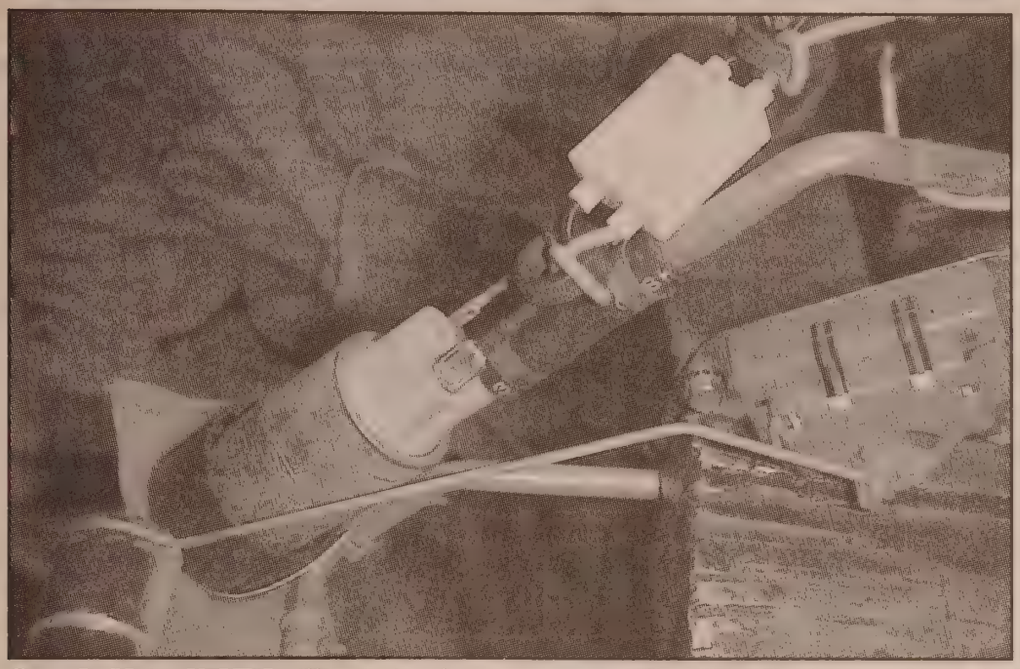

Greg LaHaie, K7YDL, illustrating how to put toroids on the Ford noise filters for better suppression

IMPROVEMENT from 40 through 15 Meters. Performance was nearly as good on 75 and 10 Meters. In fact, I now notice a lot of variation in background noise as I drive past power stations and other 'noisy' cars, where before I had been under a constant S4 or better noise floor. I consider the operation a success in attacking this source of RFI. I am still working on the best tricks to reduce radiated ignition noise. Regards, and THANKS for the help, ***Worldradio***."

Thank YOU, Greg, for a very complete report! Gerald Robertson, KF4NEF, reported good results after installation of the Ford filter (without toroids). Les Hunt, K4AN, said replacing the fuel pump completely provided a temporary fix that only lasted for 5,000 miles, but he is having the Ford filter installed.

Let me hear from you on any HF mobile subject! Send e-mail to lcobb@compuserve.com, or write:

Les Cobb, 4114 Horgan Way, Sacramento CA 95821. More at http://home.pacbell.net/lcobb/.

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Jerry Wellman, W7SAR

Is your stuff in some kind of order?

So much of what we do involves taking a portion of our gear with us to a remote location. "Remote" may mean a police or fire station, an emergency operations center, or actually in the field away from commercial power and other structures. I always struggle with taking what I need and not taking too much of what I don't need. To this end, I've organized my gear into various labeled canvas bags, marked and grouped by function. For example, one set of bags will contain AC power cords, another will contain DC power cords. Yet another contains coax cable and another with all my packet cables. The small canvas bags are then organized into large plastic containers and stored in my truck or in the shed. Items too large for storage boxes such as portable towers, battery arrays, and big rolls of coax are stacked in the shed. And then there is the survival gear, the camping gear, the food and water, the clothing by season (and area and elevation), not to mention the vehicle repair items, the tool bags, varied administrative support items (paper, pencil, etc.), and finally the myriad of radios.

"Radios" will include mobile and portable of various flavors such as HF-SSB, Amateur VHF/UHF, public safety VHF/UHF, marine, aviation, GMRS, FRS, CB, and a few other odd items. "Radios" also includes spare microphones, headsets, power cords, batteries, power supplies, and antennas. Whew! Oh, and then there is the computer with the map data base, the packet programs, a book to read when things are slow, the grounding rods, flashlights, and other assorted items grabbed on the way out the door. Depending on the assignment, it gets complicated and one thing's for certain, you cannot take it all with you!

Along the lines of "stuff", I always like to compare bug-out boxes with others. As I see what someone else has done to prepare, it always triggers an idea or two so I can improve upon my gear. One recent observation was an Amateur Radio operator who installed a large size Anderson PowerPole connecter out through the front of his car and connected it to the battery. He then modified jumper cables to plug into the connecter as well as an "extension cord" so he could quickly power a field site or help jump a dead battery. I liked this idea and have obtained the large connectors and heavy gauge wire to add to my own vehicles. I always dislike connecting jumper cables in bad weather and this little addition makes the process a lot easier, and in my own view, safer.

Another idea I recently found on an Internet discussion group was that of color-coding gear bags and boxes. Unless you're color blind, this seems like a great way to group items for quick location. For example, all my DC power cords will be in blue boxes, AC cords in green boxes, survival gear in orange boxes, etc. I'm thinking this will be an easier way to locate major groups of items and as I buy replacement boxes for those that get trashed with use, I'll coordinate the colors. (It would be expensive to rush right out and replace my current containers, but if I do this as they need replacement, over time my bug-out gear will be better organized.) I found some neat equipment boxes at a garage sale that are just right for my walkie talkies. As I've mentioned in past columns, my portable gear is mostly Icom so I can interchange batteries, headphones, etc. and I've collected quite a few of portables over the past years.

The cases I found are about three inches deep, and are two by three-feet. They're made of light plastic and the inside is lined with foam rubber. I can put six portables and several spare batteries in each case and when closed, the foam keeps the radios from bumping around. This keeps them from accidentally being turned on and from banging into other gear as I load stuff in the car.

A final idea I ran across is to use old tube caddies for parts. Many of you old timers will recall the Sylviania, GE, or RCA tube caddies that the TV repairman would lug in when he made a house call to fix your TV. (I know this sounds like I'm pulling your leg for you young folks, but a TV repairman really did make house calls in the "good old days.") I've picked up several of these caddies and they're well suited for spare parts and tools. They also serve a purpose of creating conversation when an "old timer" sees one and stops to visit or a "youngster" stops by and asks "what is a tube?" They fit nicely in the back of my car and I can color code the box so I know what's in each one.

License anyone?

Years ago I remember paying $20 for a Citizens Radio License (KCU 2188) and feeling that it was a pretty steep price to pay for the ability to operate on a few CB channels. However it was a coveted item and having worked hard for the $20, it was of "value" to me. I felt the same way when I studied and took the Amateur Radio test and a commercial radiotelephone test. I was proud to display my certificates and they were of "value" because of the work it took to obtain them. I remember going into the local CB radio shop and having the owner ask to see my license before he'd sell me a transmitter. I recall sending a copy of my license to order gear. Having that "license" seemed to me a magic ticket that opened mysterious doors and allowed me the ability to be among a particular group of like-minded folks.

Several weeks ago I attended a giant Boy Scout event called Expo 2000. The Saturday I attended, there were 25,000 registered Scouts and leaders with an expected 15,000 Cub Scouts and leaders scheduled to arrive for the day. This did not include the number of parents and others who came to attend the event and participate in the festivities. Our local Scout troop took several FRS radios with them so they could keep in touch. When I arrived I turned on my FRS radio and discovered mass confusion. It amazed me how many FRS radios were in use by troops and families. Every one of the 14 FRS channels was busy, almost non-stop. One could hear all manner of conversation as various groups tried to find other members of their party. It was neat to see the FRS being put to good use and then I heard some highly offensive comments. A couple of youths decided they had a great audience and proceeded to offend everyone they could. It was kind of a shock to hear such vulgarity and obscenity, not only from a young person but because so many other children were using the radios as well.

I've got a Marine Band radio set up at my house and a directional antenna pointed toward the Great Salt Lake. Often I'll hear kids and families using various marine channels for

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fun, not knowing that some channels are designated for specific purposes and even for emergency-only communcations. A local paint ball range uses marine radios to coordinate their activities and I often hear odd transmissions on business band radios. I try to monitor CB channel 9 at home and it's not too bad most of the time but I've all but given up on the other 39 channels. My frustration is not that radio can be a great tool for many purposes, but that so many find the need to abuse public frequencies and in doing so, affect other users. When I asked the paint ball range why they used marine radios, they didn't even know that's what they were using, and said the radio dealer had suggested these portables and even said they could operate without a license. I asked if they'd received an instruction manual and they had not. I surmise that a shop's salesman simply wanted to make the sale, not caring about what the end use would be. There are times I wish we could wave a magic wand and create understanding and appreciation for communication tools and that the resource of "frequency" is shared among many. I also wish we could teach responsibility to our youth and that our courts would not keep liberalizing the definition of obscenity. As an observation, I cannot understand why prayer is so agressively pursued and prohibited from public events and obscenity is ignored. Do you ever feel your right of NOT listening to obscenity is being trampled in favor of "anything goes?" I love the freedom to purchase radios and operate either as a hobby or in support of public service and I'd be the last to suggest we require a license before each purchase — but then there are the days I wish a license were required or at least some way to induce value to the operation of a radio. Please do what you can to create "value" in Amateur Radio. I'm of the opinion that we currently set a great example and perhaps are the last bastion of quality radio operators as an example to others. Of late I find it greatly refreshing to listen to various QSOs in progress and of greater value and enjoyment than most of the network TV programming. Besides a good book, listening to other Amateur Radio operators has been generally uplifting and enjoyable. Keep up the good work!

As you pursue making your niche in public service through Amateur Radio, consider the great potential for good you're doing. You're teaching values and teaching how to share pubic resources and do good for others. Your youngsters are watching you and learning the rewards of serving others and doing so politely and with respect toward others. As you respond to help others, you're showing you care enough to make some sacrifice in your life. As you carry on a QSO, you're encouraging the art of conversation and showing how fun it is to learn about other people one-on-one in the real world and not the fantasy portrayed by sitcoms on TV. Until next month, my thanks for all you do! You're members of a great group of quality individuals who see their license as something of value.

— Jerry Wellman, W7SAR, can be reached at: P.O. Box 11445, Salt Lake City, UT 84147 or via e-mail: jw@desnews.com

League calls Ham radio "fertile testing ground" for SDR

The ARRL says that Amateur Radio "is a fertile testing ground" for software defined radio technology and that SDR would be especially valuable to facilitate disaster communications. The League commented this week in response to FCC Notice of Inquiry ET Docket No 00-47 on SDR technology, released in March.

The League said its understanding of SDRs is that they are "in essence, digital computers connected to an antenna, controlled by software." True SDR functions, other than baseband DSP, are yet to be incorporated into commercial or even into sophisticated homemade amateur equipment, the ARRL noted.

The League said because of its flexibility, utilization of multiple modes, and shared allocations, the Amateur Service provides the proper environment to develop, test and deploy SDR technology. Amateur Radio is not constrained by limitations imposed on other services and "serves as a reasonable paradigm for a regulatory structure that might be adapted to other services," the ARRL told the FCC. The League said it intends to give a "high profile" to SDR developments in the Amateur Service through its technical/experimental publication, QEX.

The ARRL said that SDR affords a level of flexibility and interoperability that could enhance Amateur Radio's performance in emergency communications and disaster relief efforts with respect to served agencies. "Amateur SDR equipment could be rapidly reprogrammed to be interoperable with that of served agencies such as the Red Cross, the Salvation Army, local civil defense offices, state OES offices, and public safety agencies," the League said. The result would be "an even more immediate and adaptable source of restored communications for disaster relief coordination" than previously available.

The ARRL told the FCC that SDRs would obviate the need for differing transmission standards in the future. SDRs automatically could shift transmission standards to overcome common communication roadblocks such as noise levels, propagation characteristics, QRM, and other factors.

The League cautioned the FCC against imposing equipment authorization requirements on SDR hardware or software designed for amateur use that could inhibit experimentation.

A copy of the League's comment in response to FCC Notice of Inquiry ET Docket No 00-47 is available on the web. *— ARRL Letter*

NFCC meets with FCC officials

Members of the National Frequency Coordinators' Council Board met May 17 with D'wana Terry, Chief of the FCC's Public Safety and Wireless Division and other FCC officials. The NFCC says the meeting was arranged to brief Terry about the history and current status of the NFCC and how the organization could be of service to the FCC, as well as to review the status of Amateur Service frequency coordination. The NFCC also wanted to present its ideas on how to deal with the growing number of coordination disputes. NFCC President Owen Wormser, K6LEW, said the meeting provided "the basis for a constructive, cooperative and enduring relationship" between the NFCC and the FCC. — *Badger State Smoke Signals, ARRL Letter*

C.H. Stewart, KD5DL

BASIC Nomographs

It would seem there would be a great opportunity for mathematicians in today's world. While computers can simplify even the most difficult math problems, it still takes someone knowledgeable in mathematical concepts to help write the programs. Indeed, some of the math can be quite complicated.

Often a seemingly complex equation has its roots in somewhat simpler formulas. The mathematician merely substitutes various derivations of established formulas to arrive at a solution. John D. Kraus' classic "Antennas" is an excellent example of how relatively basic concepts and formulas can be combined and substituted to explain rather complex electromagnetic phenomenon.

Sometimes, however, there doesn't seem to be a mathematical solution to a real world problem. For example, I have yet to find a math solution to mapping the radiation resistance curves of antennas at various heights above ground. And I'm certainly not mathematically inclined enough to derive this kind of formula on my own.

What I can do, though, is derive a computer graphing program to achieve similar results. For example, when I needed values for radiation resistance curves for an antenna program for our August 1994 column, I used the technique. Basically, I select a number of representative values along the curve, then I use a much-simplified math formula to help me close in on a very close approximate value that satisfies the entry argument.

Many years ago BC (Before Computers), charts, graphs and nomograms were the standard tools used to derive "very close" answers to complex problems.

Take, for instance, the problem of getting the President's airplane from Andrews AFB to some other point in the world. Just filling it up with gas and taking off would be an oversimplification of the task.

First, the pilot or navigator would have to work out a route and compute the flight time to the destination and an alternate airport or two. The flight engineer would use the information as a starting point for finding out how to configure Air Force One for the trip.

One of the first things he would do is find the graph that helped him determine how much fuel would be needed for the flight. Next he would total up the fuel weight with the aircraft weight and the weight of the expected passengers and cargo, and he'd enter another chart to determine if the original fuel estimate was enough, too much or too little.

He would use another chart to derive how much runway would be needed for the takeoff roll based on the departure airport's temperature, humidity, atmospheric pressure, surface winds and altitude. He would also have to determine an abort speed, in case something went wrong during the takeoff attempt, and a speed at which the pilots would rotate the nose up for liftoff.

Other charts would determine how high the airplane could initially climb, based on density altitude, aircraft weight, and fuel efficiency considerations, and how long it would be before it could climb to a higher altitude.

Of course, there were also charts for converting Mach numbers to knots; fuel flow for airspeed and density altitude; pounds to gallons to liters to kilograms; inches of mercury to hectopascals; landing speeds and landing rolls; effects of crosswinds on landings; safe braking speeds; etc; etc; etc.

Believe it or not, even in this age of computers, pilots and flight engineers routinely refer to their graphs, charts and nomograms for the information they need to fly safely and efficiently.

This month's BASIC program is simply an exercise in computerizing chart data. For it, I borrowed the General Propagation Chart from the 1978 edition of Collins Radio's "HF Communications Data Book."

The original Collins nomogram allowed the user to enter the chart with a desired communications path length. By drawing vertical and horizontal lines to intersect the distances represented by ionospheric layer heights and representative frequencies of optimum transmission (FOTs), a rectangular area would result. The edges of the rectangle would conform to typical frequency ranges and take-off angles needed to maintain HF communications over that distance.

Obviously, the Collins chart does not address the differences in day and night ionospheric reflections, seasonal variations, the 11-year solar cycle and other factors

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```
10 CLS: PRINT "PROPO.BAS, BY KD5DL, 8/00": PRINT
20 DATA 0,2.9,11,90,90,150,3,11.2,68,80
30 DATA 300,3.1,12,60,70,500,3.15,12.4,44,58
40 DATA 1000,3.6,15.8,25,40,1100,3.75,16.8,22,38
50 DATA 1200,4,17.7,20,34,1300,4.2,19,19,31
60 DATA 1400,4.5,20.5,16,29,1500,4.6,22,15,28
70 DATA 1700,5,22.3,13,25,2000,5.4,26,10,21
80 DATA 2500,6.1,31,6,13,3000,6.5,32,3,10
90 DATA 3500,6.9,35,1,6,4000,7.1,38,0,3
100 RESTORE: INPUT "DISTANCE TO DX (STATUTE MI) ";X
110 IF X>2500 THEN PRINT "NOT MORE
    THAN 2500 MILES!":GOTO 100
120 Y=X*1.6: READ A,B,C,D,E,F,G,H,I,J
130 IF Y=>A AND Y=<F THEN 150
140 A=F: B=G: C=H: D=I: E=J: READ F,G,H,I,J: GOTO 130
150 K=F-A: L=(Y-A)/K
160 PRINT: PRINT "FOR";X;"STATUTE MILES:"
170 PRINT "MINIMUM FOT=";INT(10*((G-B)*L+B))/10;"MHz"
180 PRINT "MAXIMUM FOT=";INT(10*((H-C)*L+C))/10;"MHz"
190 PRINT "MINIMUM TOA=";INT(10*((I-D)*L+D))/10;"Deg"
200 PRINT "MAXIMUM TOA=";INT(10*((J-E)*L+E))/10;"Deg"
210 PRINT: INPUT "DO ANOTHER";A$
220 IF A$="y" OR A$="Y" THEN 100 ELSE END
```

affecting propagation. For that, you would have to use a more sophisticated set of charts, or a computer program. What the Collins chart did was allow users to determine a range of usable frequencies and take-off angles that would generally permit long-distance communications.

This month's program, PROPO.BAS, puts all the graphical information into DATA statements, lines 20 through 90. It is possible to construct a rough and jagged version of the original Collins chart just using this data.

Line 100 asks for the desired DX distance, in statute miles and line 110 makes sure the distance is within the range of the chart.

Line 120 does two things. It converts statute miles to kilometers, which was used in the original chart, and it READs data for two distances, represented by variables A and F. The first distances are 0 and 150 kilometers.

Line 130 checks to see if the desired distance is within the range of these two chart distances. If it is not, line 140 replaces variables A through E with data variables F through J, and READs the next set of DATA into the vacated second set of variables.

In other words, by the time line 140 does its thing, the new distances represented by A and F are 150 and 300 kilometers.

The process keeps repeating itself until the conditions of line 130 are met. Line 130 says that if the desired distance falls anywhere within the range between A and F, then the program is to jump to line 150.

Line 150 derives a value, L, that represents where, percentage wise, the desired distance fits between A and F. That percentage value is used in lines 170 through 200 to derive Frequency of Optimum Transmission (FOT) and take-off angle (TOA) information from the other variables in line 140.

Admittedly, this approach could be off by a few MHz at the high end of the propagation rectangle, or by a few degrees of take-off angle, but probably no more than it would be off by eyeballing the original chart.

There is, of course, propagation software that far exceeds the capabilities of this meager exercise in BASIC.

Try looking for MINIMUF, MINIPROP, IONSOUND, IONCAP, CAPMAN and ASAPS on your favorite Internet search engine. Several propagation programs are free while others cost a small fee.

But if you're looking for a way to derive computer answers non-mathematically, consider trying this month's nomographic approach.

Until next time, go forth and propagate.

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A Ham radio fashion show?

An always informative club newsletter is *Key-Klix* from the Santa Barbara Amateur Radio Club. Nothing in my years of Amateur Radio club experience, however, prepared me for the article "YL Fashion Show Has OMs in Stitches" by SBARC club president Lou Dartanner, N6ZKJ. That article described a most unusual fashion show with an Amateur Radio theme.

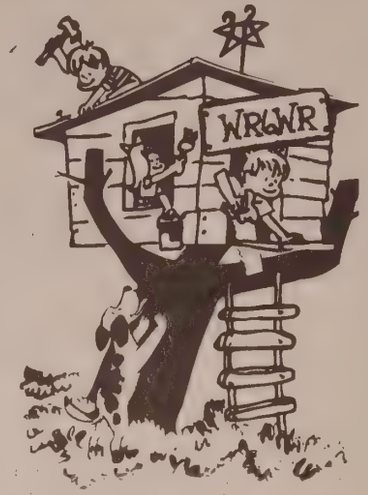
Seems that Willi Cook, KG6ABI was dismayed that Ham radios came in only one color, black, while other high-tech things come in colors. So, she tied a pink ribbon to her HT! That led the SBARC XYLs to have a design project, finding ways to "dress up" their radios.

Those 12 ladies debuted their creations at a fashion show during the March club meeting on St. Patrick's Day. Dartanner dubbed them Porta-Purses. Her commentary on the "models" follows in part.

"Diane Sova, KF6YGI, modeled a beautiful blue velvet Porta-Purse for those elegant evenings out, when we want to 'class up' the truck a bit." She later modeled "the YL Harmonics' cotton flannel Porta-Purse in woodsy colors that complement your camo fatigue outfit.

"Willi Cook modeled a round reed and space dyed flat reed woven basket in a Japanese diamond weave pattern. A small pink pig and pink bow on the antenna highlighted the design while, resting on her shoulder, another little pink piggy sported a headset and boom mike."

Even a guest from Orange County took part. An avid transmitter (fox) hunter, April Moell, WA6OPS, had the OMs doubled over in laughter when "she came out from behind the curtain with the Foxy Lady Fashion House introducing the new line of T-Hunt Trollops Beach Wear: a saucy bikini top with wraparound gathered in bright



stripes." Lou added "Great front to back ratio for fox hunting at the beach."

Other Porta-Purse designers showing that evening included Susan Stone, KA6FJA, with Patrick O'Hammie; Marcia Niessen, KD6BIV; Lilly Austin, KA6GSU's XYL, with Mobile Mammas; Millie Stauffer, KE6HTT, the Yellow Bumblebee Toro Canyon Special; and Barbara Mickelson, KF6HKR, with a BobbeD Originals creation.

Also gracing the SBARC runway were Glo Lamb, KG6ANZ, with her Radiant Callz design; Kathi Backus, KF6WB, with a Packet Pockets design; and Jayne Heil, KG6AOA, with Beau Green. Lou allowed that "he's just here tonight to give you a thrill."

Her show commentary in *Key Klix* ends with "and if you weren't there to see where the HT was, ask someone who was, because I won't tell!!!"

I guess people who say Ham Radio club meetings are boring certainly haven't been to Santa Barbara recently.

Skipping (pun intended) cross country to Michigan, you'll find another very active Amateur Radio club, the Utica-Shelby Emergency Communications Association. This club even has its own six piece in-house all-Ham rock & roll band named, appropriately enough, QRM, reports USECA public relations officer Ken Coughlin, N8KC. For 15 years QRM has performed at the Field Day evening gathering, a time when other club members often sit in as guest musicians.

Coughlin believes USECA is the most active Amateur Radio club in Michigan and, with over 250 members, certainly one of the largest. He says "much of our success in the past 10 years has been due to our club's purposeful outreach to new Hams in the area, especially no-coders, at a time when many were turning up their noses at these new licensees." Ken further says "USECA makes a point of being an all-inclusive, versus exclusive club."

"We go far beyond the minimal level of membership interaction in order to keep things interesting." Each club meeting has a pass-the-mike introduction period, a 50/50 drawing, snacks, a grab box of free stuff, and a program on a radio-related topic.

"What makes us different from the rest are the activity levels we sustain among the membership by constantly keeping the social aspect of our radio hobby in the forefront, scheduling events and activities to keep the membership interacting regularly."

Intending to administer the first FCC examination on 15 April, the club scheduled its test session to begin at the stroke of midnight. To insure accuracy of the starting time and therefore legality of the session, a member supplied a Ham rig tuned to the National Bureau of Standards atomic clock.

A look at the *USECA Express* shows such activities as a Skywarn spotter training class, a QSO party, a pre-field day rehearsal and picnic, field day itself, several campouts, club nets, public service events and repeater operations. There is even a note to see Unca' Walt, WB8E, to order the all-new Field Day 2000 T-shirt. That should go along well with

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The Club Huddle

the club's jacket, shirt, and cap.

Ken mentioned that on just about any given day there are several groups of members getting together for lunch. There are times, he believes, when it seems that the club repeater's sole reason for existence is the coordination of feeding frenzies.

A regular reading of *Smoke Signals* gives the impression that the Fullerton (CA) Radio Club membership likes hidden transmitter (fox) hunting. Joe Moell, KØOV, recently hid a half-watt transmitter in a canyon in Pomona and pointed the beam at Mount Baldy. the opposite direction from the starting point. To further confuse the hunters, there was a 1,300 ridge between the starting and ending points.

I grew up in Fullerton so I know how difficult finding that fox could be. I would probably have gone to Prado Dam near Corona, which is where Joe expected some hunters to end up. He reported that the biggest excitement was the dead skunk in the path from the road to the transmitter. Joe insists he didn't put it there!

SMARS club member Lou Ryason, WB8WXS, suggested having the program given first at club meetings with the business meeting to follow after the break. I agree, Lou, and hope your excellent suggestion starts a nationwide trend among Amateur Radio clubs.

And finally, from the Willits (CA) Amateur Radio Society newsletter — secretary Mike Ashmore, WA6OEM, reported in the meeting minutes that "I forgot to write down who won the raffle, but I do remember that someone won a new Oak Toilet Seat!!! I guess you could say that was the grand prize!!!"

I guess that would dress up the shack a bit. Well, those people way up the coast from San Francisco must know what sells lots of raffle tickets!

— Mike Flaherty, WA6UBW, can be reached at: P.O. Box 189490, Sacramento, CA 95818-9490

Inside Amateur Radio

The following story has been excerpted from Inside Amateur Radio, *by the late Lenore Jensen, W6NAZ. The book can be purchased from Worldradio Books, P.O. Box 189490, Sacramento, CA 95818. Price is $9.00 plus $2.00 shipping and handling. CA residents please add 70¢ sales tax.*

You never know who's listening

Newton Wimer, W6ABC, had a home in a beautiful section of Oregon. As he reached his late '80s his memory was still sharp. Among his recollections was the following.

"This happened in 1923. Many people were discovering radio. I met lots of them as I was one of six Amateur Radio operators employed by a Los Angeles electronics store.

"On a glass display case, we kept a semi-automatic Morse code key hooked up to a battery and a buzzer. We invited everyone to try their expertise at code with it.

"One day a pretty young lady came into our section to look at some radios and stopped to ask me some questions. As I was explaining to her, I heard someone else using the code key. It was our blond, curly-haired Casanova of a salesman calling me, using my call letters. As I listened to it as well as to her, I'm sure my face was crimson. Just a slight glimmer of a smile crossed her face, as my fellow worker clicked off the following: 'She's gorgeous, make a date for me!" He added a few other choice comments, although nothing degrading. Which was lucky for him.

"The young lady and I talked for some twenty minutes about radios. As she left, she went directly to the code key on the glass counter. We saw her touch the key like a pro and heard the buzzer clearly spell out, 'Well-said, and thank you.' Back at the counter, we were plainly shocked and I'm sure red-faced. She turned around and gave us a nice smile as she left the store.

"Of course there was some hilarity after she was gone. But when the manager heard about the event, he wasted no time in laying down a hard-faced rule. No more playing around with the key — especially to comment about the customers!"

We were to find out later that she was not only a licensed Amateur Radio operator but a commercial one, as well. And that was a time when YLs were few and far between!"

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Phase 3D – another slight delay

Hello again everybody! Well, as I write this summer has arrived, and it's incredibly hot here in Ohio...and humid! However, we seem to be getting rain this year, which didn't occur much last year.

You may have noticed on the masthead for the column, but my call has changed. I finally gave in and took a vanity call, so no more WB8CKI - it's now N8KI, and to reach me use N8KI@amsat.org for e-mail questions and answers!

Well, we're in a holding pattern with Phase 3D again — however, this time it appears there is light at the end of the tunnel. Instead of the hoped-for July launch that I mentioned in my last column, it looks like we're in the September/October time frame for the launch of Ariane 507. P3D is definitely manifested for that flight, and the problem that has arisen has nothing to do with the launch of 507 — it's 506 that is holding things up. It appears that several of the main payload customers pulled out at the last minute, causing the schedule for launches to back up while they got other companies online. Ariane 506 is scheduled at the time of this writing to go up 25 July.

During a meeting with Arianespace at AMSAT-DL headquarters in Marburg, Germany, AMSAT-DL announced that P3D would be going up along with the PAS-1R satellite and two STRV microsatellites. The launch is tentatively scheduled for no earlier than mid-September, and not later than the end of October 2000. In any event, stay tuned for more information as we get closer to launch. I should have the latest info in my next column, but you may receive it after the launch occurs (we hope!).

On other fronts however, it appears that recently there have been some great passes of RS-15 with nobody around to work it! RS-15 is a Mode A satellite (meaning 2 Meters up and 10 Meters down — more on the letters later in the column) that is in a higher Low Earth Orbit (LEO) than most of the other birds, and consequently it's signal strength is usually pretty low — however it often gets better and if nobody's monitoring, you miss it! It's a wonderful bird to work, especially on CW — give it a try and see what I mean.

SAT	DOWNLNK	UPLINK	SMODE	COMMENTS	
MIR	145.985	145.985	9+	FM crew voice	Voice and SSTV activity reported
UO11	145.825		4	FM Bell-202 ASCII	Telemetry and news bulletins
UO14	435.070	145.975	5	FM Voice rptr	lots of fun every pass
AO27	436.795	145.850	3	FM Voice rptr	days only but fun
SO35	145.825	436.290	8	FM Voice rptr	on scheduled passes only
SO35	145.825	436.290	8	9600 bd FSK digi	ON for APRS on non-voice passes
UO22	435.120	145.900	3	9600 bd FSK BBS	ON
KO23	435.170	145.900	4	9600 bd FSK BBS	ON but with probs in eclipse
KO25	436.500	145.980	3	9600 bd FSK BBS	ON
TO31	436.925	145.925	5	9600 bd FSK Images	ON

At Dayton, AMSAT-NA offered an ICOM-821H as a prize to those who either got new memberships or renewed their membership at the show. The winner was Steven Block, KC8BTE, who now has no excuse for not being active on the birds!

Two cosmonauts, Sergei Zalyotin and Alexandr Kaleri, arrived on MIR 04 April, and have been doing some limited operating of the Amateur Radio gear onboard. However, they were scheduled to return to Earth on 15 June and they will be placing the station on autopilot until November. Keep your eyes peeled for more information as it becomes available.

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International Space Station

In conjunction with our Russian friends however, work on the International Space Station is continuing, and with it the ARISS project to place Amateur Radio gear aboard the station. Current plans are for the Russian-built Zvezda Service Module to be sent up in July, providing the living quarters for the first ISS crew. Then, the initial amateur station hardware will be sent to the ISS aboard shuttle mission STS-106 in August. Finally, the initial crew of U.S. astronaut Bill Shepard, KD5GSL, and Russian cosmonaut Sergei Krikalev, U5MIR, (along with cosmonaut Yuri Gaidzenko) will be launched in October from Russia aboard a Soyuz spacecraft for what's expected to be a long-duration mission.

Amateur Radio will be available to the first crew members once the equipment has been installed temporarily aboard the Zarya Functional Cargo Block module. Earlier plans had called for the initial station gear, primarily VHF and UHF hand-held transceivers, to be put aboard the Service Module. Launch delays forced the change, however. The amateur gear likely will be transferred to the Service Module next year.

The initial station will use existing antennas on the Functional Cargo Block. The system is being adapted to support Amateur Radio operation on 2 Meters but not on 70cm.

A Russian station license and call sign, RZ3DZR, has been granted for the ISS amateur station. Long-term plans call for obtaining an international call sign for the ISS station to recognize the cooperative nature of the ARISS

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project. With assistance from the International Amateur Radio Union, efforts are under way to request a specific ISS call sign block from the ITU. ARISS team members also continue to pursue licenses in their respective countries. A German call sign, DLØISS, has been issued, and application has been made for a U.S. call sign. Once operational, there should be a great deal of opportunity to work astronauts from many different nationalities.

SpaceNews recently published a beginner's one-line summary of currently active FM birds that you can receive on your Mobile FM rig and mobile vertical whip antenna. I wanted to reprint it here because it can be an invaluable source of help for those of you just starting out and wanting to try the satellites easily. The listing was compiled by Bob Bruninga, WB4APR, "Mr. APRS", so you'll see mentioning of APRS information in the listing for those of you active in that mode.

Two new items of significance:

1. SUNSAT now operates APRS digipeating on all non-voice sked passes!

SIG RECEIVE RANGE
9 Horizon to Horizon
8 5 deg and above
7 10 deg and above
6 15 deg and above
5 20 deg and above
4 25 deg and above
3 30 deg and above
2 3 ele beam required
1 6 ele beam required

2. Kenwood announced an upgrade to THD7 HT to rec/display 9600 baud APRS. Thus it can monitor these satellite downlinks in your hand.

Between the hours of about 6 a.m. to noon and 6 p.m. to midnight local SUN time there is usually one of these birds in view for a few minutes to keep you entertained while traveling. UHF requires +/- 5 or 10 kHz Doppler tuning. The "S" column is a subjective signal strength assessment. A 20-inch vertical whip in the center of your car roof will give you success as shown below. This acts as a 3/4 wave on UHF giving almost 8 dBi above 30 degrees over a good groundplane.

As a rough approximation consider the table table below which was subjectively determined after three months of daily monitoring. Home stations with 50 feet of RG-8 should subtract about three from the signals. Users using 5/8 or dual band, or "gain" antennas should also subtract about two.

The PACSATs do not currently digipeat UI packets, but you can still see status and telemetry and the USER lists on your Kenwood data radios or any radio with 9600 baud TNC. For more info on mobile satellite operations see http://web.usna.navy.mil/~bruninga/astars.html

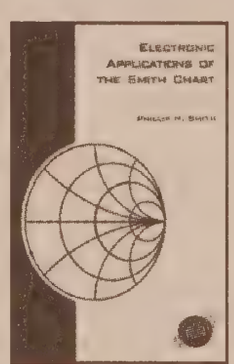
To read *SpaceNews* or the AMSAT News Bulletins, aim your browser at www.amsat.org — you'll find all kinds of useful information there.

I'm rapidly running over my limit for words this quarter, so let me pass on my 73 to you all — if you have any questions, no matter how basic, please drop them to me either by regular "snail" mail at the address above, or via e-mail to N8KI@amsat.org — hope to see you soon on the birds!

— Terry Doudes, WB8CKI, can be reached at: 344 E. Fifth Ave., Lancaster, OH 43130; wb8cki@amsatorg.

The Smith Chart

Electronic Applications of the Smith Chart, *by Phillip H. Smith* This is an updated edition of the original, classic reference book by the legendary Smith Chart inventor himself. This book describes how the Smith Chart is used for designing lumped element and transmission line cricuits and includes tutorial material on transmission line theory and behavior, circuit representation on the chart, matching networks, network transformations and broadband matching. It also includes a new chapter with example designs and a description of *winSmith* (see below). **Our Price $59.00**



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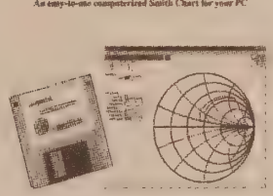

WinSmith, *by Eagleware Corp* With *winSmith*, engineers can have their PCs draw the Smith Chart and measure the distances from one point to another. Easily creates ladder networks of up to nine elements, which can be transmission line segments, inductors, resistors or capacitors, or user-defined elements. Schematic entry simplifies circuit definition, and the Smith Chart display makes manipulation of values a simple task. Can do frequency sweeps, fine or coarse tuning as needed, and provides precise numerical results. *One 3.5" disk. Runs under Windows 3.1, 95 or NT.* **Our Price $79.00**

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Hamvention 2000

Nancy Kott, WZ8C

Spirits were high this year at Hamvention 2000. Working at the FISTS CW Club booth gives me an opportunity to see the Dayton Hamvention from a perspective that is not granted to the typical attendee.

As an exhibitor, preparation starts months before the event. I had to apply for the booth, get the brochures printed, plan the FISTS get-together, gather up the supplies for the booth, and other little details that are too numerous to mention. But it never feels like Hamvention until the vehicle is loaded with the supplies and ready to go.

I met up with my mother, Irene Kott, WO8E, at a prearranged spot, loaded up her luggage and supplies and we were ready to roll! My father, Ken Kott W8ROG, refuses to go to the Hamvention, even though I have tried to convince him that it is an event every Ham should experience at least once. He did, however, have a beaming smile on his face when we drove off, indicating that having the house to himself for a long weekend was more appealing to him than rubbing elbows with 30,000 Hams.

The drive to Dayton from Mid-Michigan takes about four hours. For the first time, we did not encounter any traffic delays or construction. We saw a few Ham callsign license plates on the way, and WO8E insisted on enthusiastically waving to each one, which I am sure confused them, since they couldn't see my callsign plate on the back of my vehicle until we passed by.

We pulled into Hara Arena and joined the line of vendors to get our booth assignment and parking pass. The Dayton Amateur Radio Association has the system down to a science — the line went quickly. By 2 p.m. we were unloading the vehicle and setting up the booth. The dolly I brought came in handy; at least ten boxes of sample newsletters, brochures, and assorted paraphernalia needed to be brought into the arena. Most people attending the Hamvention don't give any thought to the amount of work that goes on behind the scenes to get things ready for the weekend. I feel sorry for the people with large displays and merchandise. They have more to unload and set up than we do! Trust me, it's a lot of work.

There is a sense of deja vu when walking into the arena for the first time each year. The smells and sounds are exactly the same as they have been for the last ten years. People are bustling around like worker bees, setting up displays, checking out the other vendors' booths, greeting old friends. Most of the vendors make the rounds of all the same shows, so they get to know familiar faces. Being in the arena during set-up is a special time. It must be the same type of feeling that actors get backstage during dress rehearsal. Everyone is busy getting their tables just right, and speculating about how large the crowd will be.

This year, the inside exhibits were open to the public on Friday morning. In the past years, the inside exhibits didn't open until noon and we were able to finish setting up on Friday morning. But, we didn't have that luxury this year. We finished setting up the booth about 7 p.m. Thursday evening and headed out to find our hotel.

An early morning wake-up call signaled the time to get started. The first day of Hamvention is always exciting. We wondered who would be the first to show up, who would be coming over from overseas, how many FISTS members would be there... I was wondering what the atmosphere would be like. The last four years were intense. There had been a lot of strong feelings about the code/no code issue and the restructuring. One year I had a forum debate with Fred Maia, W5YI, which fueled the fire at the FISTS booth. It seemed that everyone passing by had an opinion and they weren't shy about letting it be heard. Now that the FCC had made their decision and the 5 wpm Extra/General had been implemented, I didn't know what the crowd was going to be like and I have to admit that I was a bit apprehensive.

One of the perks of having a booth is having a parking pass that allows us to park in the Arena parking lot. We got to our booth about 8 a.m. and began setting out the pamphlets, sample newsletters, key rings with FISTS printed on them and, of course, our big drawing card, peppermint candy. I had time to run over to the ***Worldradio*** booth and say hello to the crew, but there wasn't much time to

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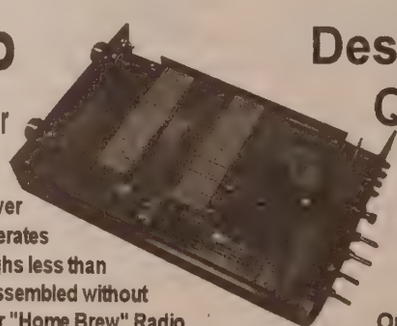

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chat. The announcement came over the loudspeakers that the doors would open in five minutes, vendors should take their places — it was showtime!

The doors opened and people started pouring in. The FISTS regulars made a beeline for the booth. Jack Slocum, WB2FXK, makes it a point to come to the FISTS booth and "check in" because we worry if we don't see him first thing. It was good to see him again, along with others that we don't see but once a year in Dayton. In the first few hours, we had over 50 FISTS members on the sign-in sheet, which I believe to be a record. We were so busy catching up on the news from everyone, the 10 hour day just flew by.

I wasn't able to get away to do any shopping, and to tell the truth, I didn't even think about that. The first day of Hamvention is just a whirlwind of people. My brain was getting a real workout trying to put names with callsigns I have only seen on paper or on the air and faces that I only see once a year. Thank goodness for name tags and call sign hats!

Saturday, we had a lot of help with the booth so I was able to get away and look around the arena, but I didn't get an opportunity to visit the flea market. I had wanted to check out Tony Pereras' Telegraph display since I had missed it last year, but there just wasn't time to get away from the booth that long.

I looked all around the arena for new keys to buy, but I didn't see anything that caught my eye. Vibroplex was offering a new small iambic, but it didn't scream "take me home", so I didn't. I couldn't find the Schurr dealer, if there was one. I would have liked to get another Schurr straight key. I have their mobile key, which is the mid-size one, and I just love it. Straight keys are my favorite style of key and my Schurr is a joy to use. I have a Kent straight key but generally don't use it on the air because it is too clunky for my taste. It is fun to use as a demonstration key because it clacks like an old telegrapher key. I do use it on Straight Key Night because that gets me in the right state of mind. I wanted to see if Kent had anything new to offer in the way of straight keys, but couldn't find a Kent dealer either.

Since I couldn't make it out to the flea market, I asked fellow key collectors to keep an eye out for anything that might be of interest. Usually they will come back with something to tell me about, but not this year. I wonder, what's up with that? I hope it is because people are using them on the air, rather than selling them. When I got home I had an e-mail waiting, informing me that my new Hensley paddles were almost ready to ship, so my disappointment about not having a new key instantly disappeared!

From the preliminary reports, attendance was less than expected, but for FISTS, we set a new record. Over 250 members signed in at the booth, and there were at least another 30 who stopped by but didn't sign in. Members were in town from Ireland, Bulgaria, England and Germany as well as Aruba and South American countries.

It really surprised and pleased me when people came up to me to tell me they enjoy reading Positively CW. More than a few stared at me, and said, "Don't I know you from somewhere? I would say "***Worldradio?***" and I could see the light bulb click on, "Yes, that's it! You write that CW column in ***Worldradio***." It was a pleasure to have an eyeball contact with everyone who stopped by. I appreciate your moral support. My apprehension about the attitude of the crowd dissipated by Saturday. This was the most relaxing and enjoyable Hamvention I've attended. There was a minimum of negativity and bickering. Sure, people were disappointed with the restructuring decision and the degradation of the testing requirements, but it was with a determination to make the best of it and a vow to keep the CW-only subbands hopping. Keeping our frequencies is going to be our biggest challenge in the upcoming years. Use it or lose it is going to be more than a phrase, it's a fact. But, more about that in another column, I'm about out of room in this one!

As always, I love to hear from you, so keep those cards and letters coming: Nancy Kott, P.O. Box 47, Hadley MI 48440. E-mail: nancy@tir.com

— Nancy Kott, WZ8C, can be reached at: P.O. Box 47, Hadley, MI 48440-0047 or via email at: nancy@tir.com.

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The 'NorCal W6JJZ BLT Tuner' kit

When it comes to QRP antenna tuning unit design, Charles Lofgren, W6JJZ, is widely considered one of Amateur Radio's leading authorities.

His work has appeared in publications ranging from the ARRL's Antenna Compendium series and Communications Quarterly to QRP Amateur Radio Club's QRP Quarterly and G-QRP Club's SPRAT. Lofgren is perhaps best known in the low power community for his Z-match tuners, which have enjoyed wide acclaim both in the home station and along the backpacker's trail.

The versatility of 'JJZ tuners, designed, built and tested at Lofgren's Claremont, CA, station, have given radio amateurs with challenging antenna situations options for "getting out" they've never enjoyed before. Just ask the legions of dwellers, both apartment and cliff, from around the world who have benefited from 'JJZ's ever-improving tuning circuits. Those who swear that you can "tune up a wet string" with one of Lofgren's units aren't stretching the truth all that much.

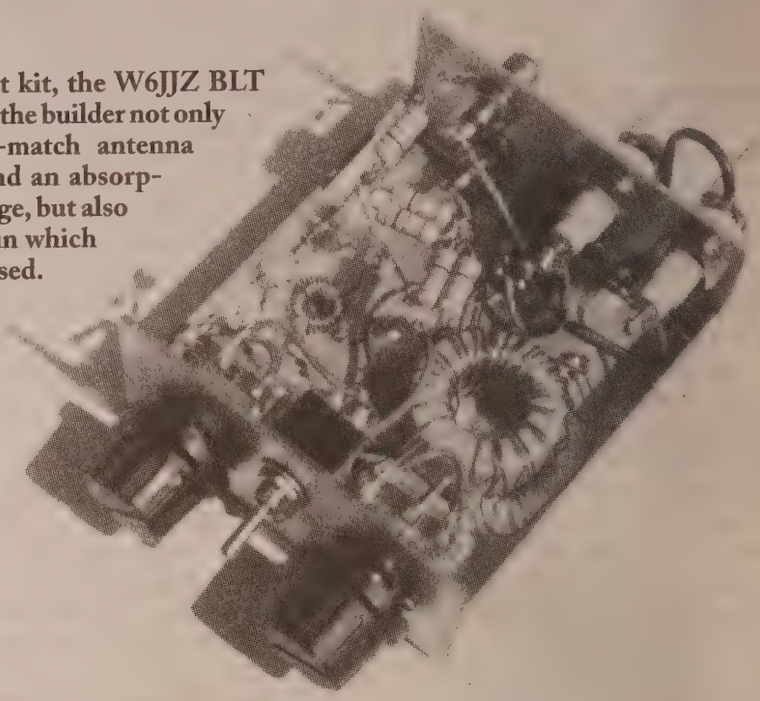
At the request of the NorCal QRP Club, with Doug Hendricks, KI6DS, at the helm, Lofgren has designed the "NorCal W6JJZ 'BLT' Tuner Kit," for use with antennas fed with open wire feeders, ladder line, zip cord and ribbon cable. "As long as you are using balanced line as a feedline, this tuner will work," the NorCal kit's construction manual asserts. And with a very simple modification, it'll work with coax-fed antennas as well.

"Charlie designed this tuner to work specifically with the polyvaricon variable capacitors available from Mouser," Hendricks writes. "I asked him to design it at first because I wanted a simple tuner for a presentation that I was doing at the Ft. Smith (AR) QRP Group Forum, ArkieCon 2000. It turned out so well that everyone who saw it wanted one. Thus the NorCal W6JJZ 'BLT' Kit was born."

If you haven't figured it out already, "BLT" is short for balanced line tuner.

The circuit is classic Lofgren: a Z-match using inductive coupling via high and low-impedance secondary windings with a primary on a single T106-2 toroidal core. The operator has the option of using either the high or low impedance links to obtain a good match and optimum output — which is a very big part of the game where QRP is concerned.

Two 220pF variable capacitors do tuning duty — one in series input; the other across the primary of the T106-2 inductor. The Z-match is a proven performer that's a great addition to any QRPer's shack. But 'JJZ's BLT antenna tuning unit is only one-third of a troika of features this new kit offers.



NorCal's latest kit, the W6JJZ BLT Tuner, calls on the builder not only to build a Z-match antenna tuning unit and an absorptive SWR bridge, but also the enclosure in which the unit is housed.

An absorptive SWR sensing circuit has been integrated on the front end of Lofgren's Z-match. Developed several years ago by Dan Tayloe, N7VE, the bridge uses a tiny light emitting diode (LED) to indicate the state of standing waves. At mismatch the LED shines bright. As a match is approached it gets dimmer and dimmer. Finally, when SWR is 1:1 the light goes out.

As is the case with all absorptive bridges, it is switched into the circuit only when tuning up. When a match is achieved, the N7VE circuit is bypassed — leaving just the Z-match in line.

The bridge is built using the popular Manhattan-style construction, in which soldering "islands" are made by superglu-ing small dots of single-sided printed circuit board to the bottom plane of the BLT's case. Components hop from one "island" to the next to complete the circuit. Parts that go to ground are soldered directly to the ground plane formed by the bottom of the case.

Speaking of the enclosure, that's the third treat in the "BLT" kit. It's made by assembling five pieces of pre-cut double-

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sided PC board. A drilling pattern is part of the construction manual.

Once drilled, the front and back panels are soldered to the base of the BLT enclosure and reinforced by soldering in two narrow side rails that run the depth of the kit — from front panel to back panel.

For builders who have never tried their hand at building an enclosure or Manhattan style construction, the BLT is a fabulous training ground.

The 'JJZ BLT kit arrived at KI6SN from NorCal in a small cardboard box. Inside were two baggies. One contained the parts for the Z-match, the SWR sensing unit and hardware for the enclosure. A second baggie held the double-sided PC board material that would soon become the BLT's case, and five soldering "islands" for the Manhattan-constructed SWR bridge.

The first order of business is to duplicate the drilling patterns on the 1.5-by-2.75 inch pieces of PC board that will become the front and rear panels. On the front panel you'll drill holes for mounting two variable capacitors, a DPDT switch for putting the SWR bridge IN and OUT of the circuit, and the sensing unit's LED.

On the back panel, holes are drilled for the balanced line binding posts, a DPDT switch for selecting HIGH and LOW impedance matching options, and transmitter input jack.

If you've never made your own enclosure, this is a very forgiving way of going about it. Make a mistake, or change your mind on hole positions, and you can toss the goofed-up panel aside. Just cut a new one from any dual-sided PC board stock you've got on hand and take another run at drilling. That's just what happened in my building experience, and I was able to correct the problem in about 10 minutes.

Once the panels have been drilled, it's time to solder them to the BLT enclosure's base — which is a 2.75-by-3 inch piece of PC board. Narrow side rails that run the full depth of the board offer rigid support for the front and rear panels. Once everything is tacked and then soldered into position, you've got one sturdy enclsoure. A U-shaped plastic cover is provided for the enclosure's top and side panels.

Mount the switches, capacitors, jacks, binding posts and the LED onto the panels and you're ready to start building the Z-match. If you've never worked with toroids before, putting three windings on the T106-2 core might look like a daunting task. But once you get the hang of it, even a beginner can do a good job. The manual has detailed winding instructions as well as a drawing of the completed inductor.

Once L1's center tap is soldered into place on the enclosure's ground-plane base, you're in good shape to complete the Z-match wiring.

Next comes the N7VE SWR bridge. It, too, calls for winding a toroid with both a primary and secondary, but by now you've already gotten the hang of it, right?

A bonus with the SWR bridge is the experience of Manhattan-style contruction. The BLT manual shows where to superglue the soldering "islands," and then it's just a matter of installing the resistors, diode, capacitor and LED.

This was my first experience in Manhattan, but I guarantee it won't be my last. I was amazed by how fun and easy it is to build this way.

After all the components are on board, it's time to put the 'JJZ BLT in line and see how the circuit fares on the air.

At KI6SN there are antennas fed both with open wire and coaxial lines, so I was able to test each. When using coax feed with this tuner it's necessary to ground one side of the output. Some builders have added a switch that grounds one of the binding posts. To keep things simple, I merely added a grounding strap anchored to the rear panel. When I use the antenna fed with coax, I just feed the ground strap into a binding post. Meanwhile, the braided side of the coax is grounded on the BLT's enclosure, while the center conductor goes to the other binding post.

As might be expected with any Lofgren design, this is an amazingly versatile tuning unit. Both the open wire fed and coaxially fed antennas tuned up nicely on just about all bands. I found the need to add a bit of capacitive padding, about 66 pF, to the series input variable capacitor to get a comfortable match on 40 Meters using the coax-fed dipole.

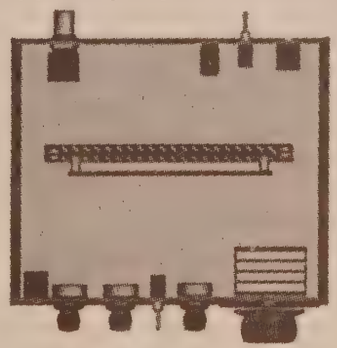
I plan to do some more experimentation to find capacitive combinations that work best. That's one of the beautiful things about 'JJZ designs — there's always room for tinkering.

Would I recommend the BLT? Highly. This is a wonderful tuning unit that has applications around the QRP station and in the field.

To order the NorCal W6JJZ BLT Tuner kit, send a check for $29 ($25 for the kit and $4 for shipping) to: Doug Hendricks, KI6DS, 862 Frank Ave., Dos Palos, CA 93620. Make the check payable to Doug Hendricks, and the club asks that you include a self-addressed mailing label.

— Richard Fisher, KI6SN can be reached at: 1940 Wetherly Way, Riverside, CA 92506; KI6SN@aol.com.

The Sierra



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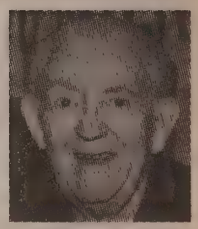
10-10 at Dayton

Chuck Imsande, W6YLJ
10-10 19636



For the first time 10-10 had a booth at the Dayton 2000 Hamvention and what a time was had! The booth was manned and ready at the starting bell. Over 1,000 members signed the 10-10 guest book, including visiting DX members from Argentina, Denmark, Germany, Japan and "down under." Many non-members stopped by to discuss the 10-10 Net and how to become a member and information was passed out to those interested in joining. Dues renewals was big business for Data Manager Gerry Gross, WA6POZ #21274, and Treasurer Keith Schlottman, KR7RK #63324, who report a large number of old time members with numbers with three and four digits were among those renewing their dues. Also those with low five digit numbers were among those that were welcomed back as active members. It is great to have these old timers back as a part of the active organization.

President Tom Henderson, K4CIH #33233, was on hand to greet those stopping by the booth and was helped by volunteers Dave Stanford, K7IOU #70728, and John Bergman, WR5I #69560, who helped keep things running smooth as silk. Copies of the *The 10-10 News* were available as well as 10-10 Caps, T-Shirts, 10-10 Stickers, XXIP Pins (especially for this occasion), Roster Hard Copies and a few old 10-10 pins for the collectors. Proceeds from the sale of any item want into the Scholarship Fund. All of those who manned the booth reported that by noon Sunday, they were a bit hoarse from the many eyeball QSO's and much conversation with old as well as new members. President Tom Henderson reports that the success of the booth indicates that 10-10 will have a booth at the Dayton Hamvention in the years to come and thanks all those that not only stopped by for a visit, but a big thanks to those who helped man the booth for the three days.

10-10 forum

The usual 10-10 forum was held this year on Friday afternoon with a large audience. Our Data Manager, Gerry Gross, WA6POZ, presented an update on membership statistics and our Treasurer, Keith Scholttman, KR7RZ, gave an interesting and hilarious program on filling out the 10-10 tax forms.

Annual Board of Directors meeting

The annual Board of Directors meeting was held in Boise, Idaho, on 09/10 June. Since the deadline for this issue of ***Worldradio*** is prior to the meeting, discussions will center around minor problems with the updated Award Program, changes to the Policy and Procedure Manual, the 10-10 2001 Convention and several proposals that will be presented for consideration. Details of the meeting were not available at the time of this writing, but will be published in the next issue of *The 10-10 News* and in the next ***Worldradio*** 10-10 column.

Election

Ballots will be in the mail during the month of June and four Directors are up for election. The ballot will be different this year and will include the biographies of the candidates. There will be a tear out ballot (post card) to mark and return. Deadline for "receipt" of the ballots is 31 August 2000. If you are an active member (paid up dues), please review the biographies and vote for the member of your choice. Remember these candidates are volunteering to represent you in your organization and deserve your consideration and vote..

Y2K 10-10 programs update

The interest in the 10-10 Y2K programs continues to run high. The number of members completing their 2000 "any body contacts" is increasing daily. Harry Martemyanov, UN7FZ/UP6F #45850, says he has over 4,000 contacts at the date of this writing, 01 June. I wonder if any one can top Harry? Remember, there are two Y2K contests running concurrently. The original announced contest allows you to make contacts with both members and non-members and to make dupe contacts with stations, but not in the daily 24-hour period. The second Y2K contest allows contacts only with 10-10 members and no dupe contacts are allowed. This is the "unique member only contest."

Logs for the Y2K "any body contacts" contest may be sent to: Doris Slye, N3TGB #68129, 708 Doages Drive, Millersville, MD 21108-2132

It is suggested you send a photo copy of your log and retain your original log for record purposes. NO log submittals will be returned. Remember, this is not a contest to see who can make the most contacts in the year 2000. It is a contest to see how many members can make the 2,000 contact mark. Logs with more than 2,000 contacts do not count any more than logs with just 2,000 contacts. A certificate will be awarded to all who claim 2000 contacts.

Log submittal for the Y2K (unique member only) contest will be announced in the October issue of *The 10-10 International News* and in the October issue of ***Worldradio***.

Rumor has it that several members are getting near the 2,000 member contact mark as this column is being written.

Logging of either of the Y2K contests can be simple if your use the official 10-10 logging program. Jim Hardy, K4HAV #17605, has added this additional Y2K contest feature to the WIN1010 Daily Log Program. WIN1010 now has a routine that will pick out all of the unique 10-10 numbers and sort in order and make a display that can be printed out into the required log. It just gets easier all the time! If you want to get the official 10-10 computer program for all of your 10-10 logging requirements visit Jim's web page by going to the link on the 10-10 web site: www.ten-ten.org.

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2000 new members in 2000

Our Data Manager, Gerry, WA6POZ #21274, reports new applications are coming in at a record rate for the first half or 2000. It appears that we have a good chance of making the goal of 2,000 new members in Y2K. The challenge to see how many times your call and number can be listed on a new member application has created a lot of activity. Here are the leaders at the time of the writing of this column:

No of times Listed	Call	10-10 #
45	VP2VF	63440
43	K5GAY	11825
40	WB4FBS	48461
34	KC0CMZ	70882
27	W5JDU	03017
26	6Y5DA	17404
25	W6AFA	68734
25	KC7DH	52099
24	VE5BCS	42027
23	W6YLJ	19636
23	VE7NF	18689

In addition, there are 42 members listed 10 or more times. It's not too late for you to get into the top of the list. The way to get your call and number listed on new member applications is to make contacts, and particularly help those non-members that need information on how to join 10-10.

While entering all of the new applications into the computer program designed by our official 10-10 logging program manager, I ran across the following letter enclosed with a application for membership from a DX applicant. After reading it, I was touched to the point that I felt that you might also like to share in its contents. The following is an exact quote:

"Dear friends,

I send you my Application for Membership in TEN-TEN International Net. I enclose 13 U.S. dollars, because it is VERY difficult for me to send it via Int. POST or via Czech Bank. You can see: 1 U.S. dollar = 36 Czech crown. 13 U.S. dollars = 468 Czech crown. If I wish to pay it via some Czech Bank - I must pay 468 Czech crown (13 U.S. dollars) plus 900 Czech crown CHARGE Together 1,368 Czech crown. I am a Czech retired woman and it is nearly half of my monthly national income (RENT). You can see it's a lot of money charge. I hope you received it all OK and in next time I shall have a TEN-TEN NUMBER. I will be very happy. Good luck 73"

After you read her letter you can readily see what a great bunch of people we have in the 10-10 organization. Her letter was perfectly typed as well as her application. I, for one, hope to work this lady 10-10 member. Her name, call and 10-10 number have been purposely deleted for security reasons and to protect her privacy. By the way, she has not been listed in the new DX members of ***Worldradio.***

Net activities

Bill Marple, AA6ZW #62075, 10-10 Net Manager, has released the net activity report for the first quarter of 2000. A total of 4,772 check-ins to the two daily 10-10 nets were recorded. What a great job our daily net managers are doing — 47,672 check-ins in 91 days! The net runs daily, except "Never on Sunday" at 1800Z on 28.380 and 28.800. Daily net control stations are located around the country and therefore provide the best possible coverage based on propagation. Please check into one of the 10-10 nets and meet some new 10-10 members.

New DX members

10-10 continues to grow in the DX world. Here is a list of some of the new DX members who have recently received their own 10-10 numbers: MØBYV #71714, JL1MVM #71715, PY3DJB #71716, DU1SAN #71717, IK6UBY #71718, VE3AAZ 71719, VK3FRB #71720, F5AOV #71721 and OE6HFZE #71722. We welcome these new DX members into 10-10.

Information about 10-10

If you would like information about 10-10, and how you can become a member and receive your very own unique 10-10 number. Send $2.00 and an address label for the return of your information package to: 10-10 International Net, Inc., Attention: Information Package, 643 N. 98th Street - PMB #142, Omaha, NE 68114-2342. No SASE please as the information package requires a 9 x 12 envelope. You will receive a copy of the Information Brochure, which contains everything you want to know about the 10-10 organization, a listing of all 10-10 Chapters, their day, time, and frequency of net operation and an application form. Also enclosed will be a copy of the QSO Party Information Brochure and a copy of the latest issue of *The 10-10 International News*, the 32 page 10-10 quarterly magazine.

If your membership in 10-10 has expired and you would like to renew your dues, send your dues ($10.00/year or $25.00 for 3-years) to: 10-10 International Net, Inc., Attention: Dues Renewal, 643 N. 98th Street - PMB #142, Omaha, NE 68114-2342. You will become an "ACTIVE" member again and receive all of the benefits of 10-10 including the quarterly *10-10 International News.* And, please do not forget to include a donation to the Scholarship Fund along with your due renewal.

Remember 10-10 numbers are issued for life and your originally issued number is always yours. If you have lost, or forgotten, your 10-10 number, send a #10 SASE to the above marked to: Attention: 10-10 Number, and your original 10-10 number will be sent back to you.

Additional information is available on the 10-10 web site. Just go to www.ten-ten.org and all of your questions should be answered. If not, just e-mail me at the address below.

Chuck Imsande, W6YLJ #19636, 10-10 Vice President, 20815 Desert Sands Drive, Sun City AZ 85375-5443 or e-mail at: w6ylj@arrl.net

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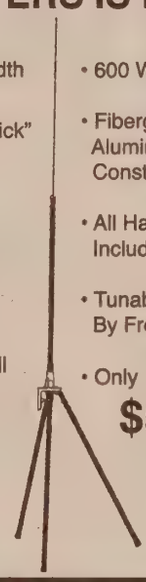

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Drifting Patches of F Region Ionization Across the Dark Polar Cap

In the Propagation column of the September 1993 issue of ***Worldradio***, my predecessor Bob Brown, NM7M, discussed his observations of hearing the RS-12 satellite's 10M signals in the winter when it was still below the horizon to the north. That meant 28 MHz was propagating across the dark polar cap to NM7M's QTH. Based on the usual model of the ionosphere, this shouldn't happen, as the critical frequencies (and the resulting maximum usable frequencies) across the dark polar cap wouldn't be high enough to support 28 MHz propagation.

After some detective work, NM7M discovered that the scientific community sees patches of F region ionization drifting across the dark polar cap. This was the likely mechanism that allowed propagation of RS-12's 28 MHz signal to NM7M's QTH. I found this to be really interesting, and wondered if this mode of propagation could impact more than just satellite operation. I'm happy to report that I think I have evidence of this occurring on a terrestrial 10M QSO.

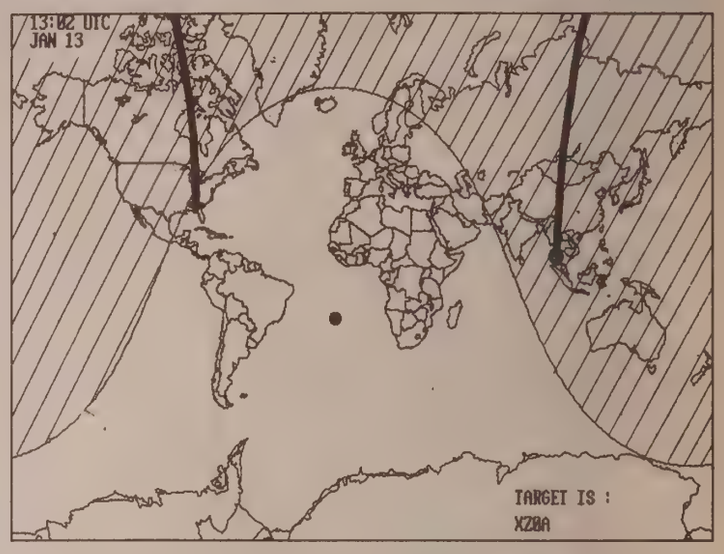

Figure 1 Mercator projection of W4ZV to XZØA path

During the XZØA DXpedition of January and February earlier in the year, Bill Tippett, W4ZV, worked XZØA on 13 January on 10M around 1300UTC. When he mentioned this in an e-mail, I assumed this was a long path QSO. But it wasn't — his monobanders were pointed to the north for this QSO, which would be short path. This sounded very interesting, as the north polar cap in winter in the northern hemisphere stays in darkness all day. The MUF (maximum usable frequency) over this portion of the path shouldn't get high enough, as I said earlier.

Figure 1 hints at this dark polar cap issue. The heavy line is the short path from W4ZV to XZØA on 13 January at 1302UTC. If you slide the terminator to the left and to the right, you'll see that only the ends of the path see daylight. Thus the MUF on the ends of the path shouldn't be a problem at solar maximum — about where we are. But the portion of the path from northern Canada to northern Siberia never sees daylight.

This portion of the path from northern Canada to northern Siberia is across the polar cap. Figure 2, an azimuthal equidistant map centered on W4ZV, shows this portion of the path better (again, the heavy line is the short path). The length of the path across the polar cap (that area within the auroral zone) is about 5,000 km. Looking at this portion of the path using an SSN of 100 shows that the MUF is way too low, as expected — it's only around 16 MHz. How could the MUF get to 28 MHz along this portion without the benefit of the sun's ultraviolet radiation?

The most likely explanation, as you've probably guessed, is the drifting patches of F region ionization. From a paper by D. J. McEwen and D. P. Harris ("Occurrence patterns of F Layer Patches Over the North Magnetic Pole," Radio Science, Volume 31, Number 3, pages

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619-628, May-June 1996), we can understand some of the characteristics of this unusual propagation mode.

The authors made observations during the winter months (November through February) of 1990/1991, 1991/1992, 1992/1993, and 1993/1994. The instrument used for their observations was a photometer. Emissions at 630nm (nanometers) were monitored. 630nm is the wavelength of the airglow from excited oxygen atoms at F region heights. The unit of measurement is the rayleigh (R), which is a special unit of measurement adopted in airglow and auroral photometry. It is defined as a measure of the omnidirectional emission rate in a column of unit cross section along the line of sight. One R equals 10 to the 6th photons per square cm per second.

Since this is an optical measurement, the authors needed clear moonless nights to make observations. There were 77 such nights during the 4 year period. Enhanced 630nm emissions were observed on 76 of those nights. On average, there were seven drifting patches seen on each of the 76 nights.

The average emission measured was about 150 R above background, with a trend of more enhanced emissions during the higher SSN winters.

A good question to ask is, "How does the enhanced optical emissions at 630nm correlate to electron densities?" This comes from another paper by J. Buchau, B. W. Reinisch, E. J. Weber, and J. G. Moore ("Structure and Dynamics of the Winter Polar Cap F Region," Radio Science, Volume 18, pages 995-1010, 1983). The electron densities in the drifting patches were a few times higher than ambient in the enhanced 630nm airglow regions. With critical frequencies, and thus MUFs, proportional to the square root of the electron density, the reported "few times higher" electron densities could easily put the MUF up at 28 MHz.

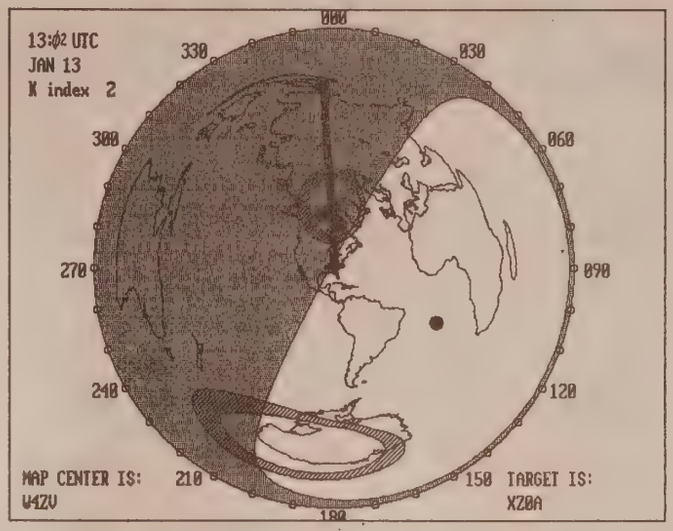

Figure 2 Azimuthal equidistant projection of W4ZV to XZØA path.

The source of the drifting patches appears to be near the dayside auroral oval, which would be around the southern tip of Greenland for the time of the W4ZV-to-XZØA QSO (see Figure 2). The patches drift across the central polar region in an anti-sunward direction — counterclockwise. The average cross-sectional dimension of a patch was 500-600km.

Interesting, isn't it? Remember the old adage that 10M propagation follows the sun? Well, here's a little twist to that to make your DXing a bit more exciting.

— Carl Luetzelschwab, K9LA, can be reached at: 1227 Pion Rd., Ft. Wayne, IN 46845 or you can e-mail him at: k9la@gte.net.

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The truth about antenna tuners

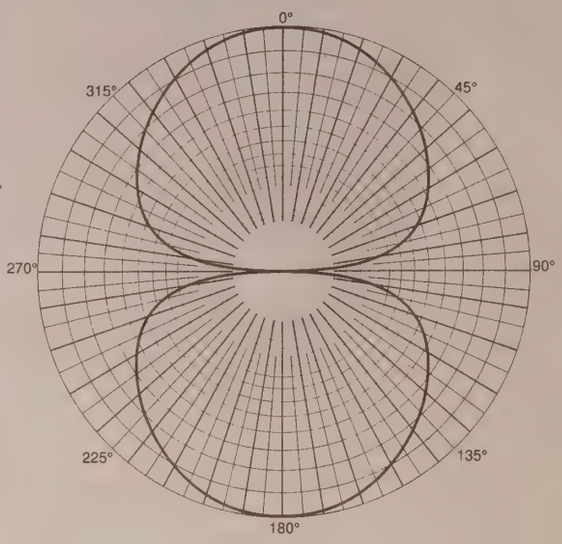
An reader of Kurt's column writes, "Ads talk about certain brands of antenna couplers as 'high efficiency'. It seems to me that the only way power can be dissipated in these circuits is in the resistance of the coil. Is there something else that affects efficiency?" While Kurt is not an advertising man, he does know what they are trying to say.

Usually most of the losses are in the coil. But they are not just due to the resistance of the wire. As a matter of fact, the best efficiency is down at the lower frequencies where most of the coil is in use. The "Q" of the coil here, in a quality tuner, will be about 200.

As you go higher in frequency, more and more turns are shorted out to lower the inductance. This introduces losses and by the time you get up to 10 Meters the "Q" may drop to 20 or less. So significant power is lost in the coil at the high frequency end of the tuner's range.

There is no way to avoid this in a single coil tuner. It is possible to use a separate high frequency coil placed so it does not couple into the larger low frequency coil but this is rarely done because of the added complexity and expense.

Another source of coil loss is in the cabinet itself. The metal cabinet should be distant from the coil by at least the coil radius. This is not always the case in modern equipment where "low profile" miniature cabinets are desired. If the cabinet is too close the coil "Q" and thus the efficiency will be further degraded.



Kurt wonders if anyone has ever built a cabinet using fiberglass or plastic?

There also is the contact resistance of the roller in the usual variable inductor. This gets worse with age when film and dust collect on the coil. The solution here is, of course, to clean the coil and roller once in a while. This solution is similar to taking a shower, something Kurt does at least once a week.

You can help

There is another major source of circuit loss that the you can control. This is because there is more than one control setting that results in 1:1 SWR on the transmitter cable, but only one of these settings gives the best efficiency.

Here is how to get it: Start with both of the capacitors set at maxium capacitance. Next adjust the "antenna" or "load" capacitor and the coil to get minimum SWR. If this minimum is not 1:1 then reduce the capacitance of the "transmitter" or "input" capacitor and try again.

Keep doing this until you get 1:1 SWR with the "input" capacitor as large as possible. Following this procedure you may cut your losses in half! Kurt needs to remind the readers that while 1:1 SWR is considered to be highly desirable, in some situations it's just not possible to get it. Kurt and Lil have been more than happy with an SWR of 2:1 or higher — it still works!

The balun

So far we've been talking about the standard "T" tuner with two capacitors and one inductor. This "single-ended" tuner drives coaxial cable to the antenna. Most of these tuners have a provision to drive balanced "openwire" lines and use

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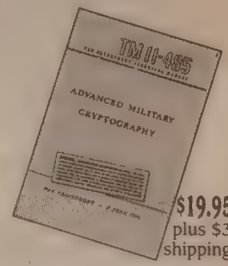

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a balun to do this. Baluns work pretty well for low impedance loads but can be very lossy when working into high impedances.

To check your tuner for losses and to see if and where they are a problem, transmit "key down" for a minute or so. Then turn off the transmitter and check the tuner for warm or hot spots inside.

160-meter antenna

Another reader wants to get started on a 160-meter antenna. He plans to use a 30-foot pole and top loading coil. How to calculate the coil inductance?

This is a good question to ask Kurt because he uses a 30 foot vertical on 160 Meters and gets out very well. Not in the top rung of contesters of course, because that's a very short antenna for this band. Kurt would like to have a quarter-wave vertical but can't go up the required 130 feet. He'd really like to go higher, but then the crop dusters flying around here would probably get all upset with Kurt.

The trick in using a short vertical is to keep losses down by having a good ground system, using top loading to bring up the radiation resistance, and using a high "Q" coil or, better yet, no coil at all.

The radiation resistance of a 30 foot vertical is about 1.6 ohms. You will be lucky if you can build a ground radial system with a resistance of less than 15 ohms or so. These numbers give an efficiency of 10% — 10 watts out for 100 watts in. In order to get the legal limit out, Kurt would have to use a broadcast transmitter capable of 15,000 watts. Lil is not about to give up her sewing room so Kurt can install a broadcast transmitter.

What a dilemma — what could Kurt do to improve the efficiency? By using a top loading coil, of course! With a top loading coil you can improve that to 25 watts out. And if you leave out the coil and use a big capacity hat instead, you can get that up to 35 watts out.

Kurt uses a capacity hat of 12 radial wires, each 25 feet long, with a wire going around the outer ends tying them all together. At the end of each wire there is an insulator tied to a guy wire that goes to whatever tree or post can be found in that direction. Most guy wire ends are about six feet above ground. The resulting antenna looks like a big parasol.

Radials

You need radials at the base also. Very important. How many? Use at least twelve. More are better but those first twelve drop the resistance down the most. How long? Kurt's are mostly 50 feet; some longer. 35 feet will work fine if you are pressed for room.

Loading the coil

Krusty Old Kurt's antenna resonates just a little above the 160-meter band. A small loading coil at the base brings it down to 1850 kHz. Why not a top loading coil? It's very inconvenient to tune exactly to the desired resonant frequency with a coil up there at the top of the mast. Kurt has found that as he ages, he is less inclined to go to great heights to tune an antenna. Kurt can't talk Lil into going up there, either. The big top umbrella eliminates the need for much of a loading coil and the small base coil is just for tuning.

You are going to want a small loading coil at the base with a tap or two if you want to move around the band. Kurt's vertical has a 2:1 SWR bandwidth of about 80 kHz; the band is 200 kHz wide. Remember, the better the efficiency of your antenna the less the bandwidth.

Don't be taken in by those commercial antenna ads that tout their wide SWR bandwidths as though they were something to be proud of. Loss resistance is what gives wide SWR bandwidth. Don't forget that.

Feeding the vertical

If all goes well and you wind up with a base resistance of about 15 ohms, the easy way to connect your 50-ohm coax is through a 4:1 (50 to 12.5 ohm) unun (unbalanced to unbalanced transformer). Jerry Sevick's book "Transmission Line Transformers" has designs with practically no losses. Put one of these ununs right at the base.

The top-loading coil

If you can't put up a big umbrella then use a little one with a top-loading coil. This is better than a big base-loading coil. You must have some capacity above the coil; a vertical whip, horizontal wires, or a capacity hat.

The amount of capacity above the coil affects the size of the coil you need. How to decide how big a coil you need? There are equations in the March 1990 *QST* article by W7XC. Great article. Your library may have it.

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Contest Calendar

Dave Goodwin, VE2ZP/VE9CB

Contest	Date & Time	Bands	QSO points	Multipliers	Exchange	Entry Categories	Entries
YO DX (Romania)	0000Z 6 Aug 2000Z 6 Aug	80-10M CW & SSB	8pt/YO 4pt/DX 2pt/NA	YO Counties, ITU Zones on each band	RST ITU Zone	Single op: all bands, single band Multi-op, singletx	1mo. Box 05-50 R-76100 Bucharest
NA QSO Party CW (NCJ)	1800Z 5 Aug 0600Z 6 Aug	160-10M CW	1pt/QSO	Canadian Call areas, US States, other NA countries	Name QTH	Single Op; Multi-op, twotx All entrants must run 150w or less	1mo. K8CC
ARRL UHF	1800Z 5 Aug 1800Z 6 Aug	220MHz to microwaves	3pt/220, 432MHz 6pt/902, 1296MHz 12pt/2304MHz +	Grid squares worked on each band	Grid square	Single op Rover Multi-operator	1mo. ARRL or Email: August UHF@arrl.org
European DX CW (Germany)	0000Z 12 Aug 2359Z 13 Aug	80-10M CW	1pt/Eur 1pt/QTC QTC: reports of previousQSOs Time:Call:Ser#	WAE Countries worked on each band. x2 on 10/15/20 x3 on 40M x4 on 80M	RST Ser#	Single Op: All bands, Single band Multi-op: Single ormulti-tx All entrants may usePacketCluster	15 Sep Box 1126 D-74370 Sersheim Germany
Maryland-DC QSO Party	1600Z 12 Aug 2359Z 13 Aug 0400-1600 off time for all participants	80M-UHF CW, SSB, FM, ATV and RTTY	10pt/Club stns 5pt/Mobiles 4pt/Novice orTEch. 3pt/CW, RTTY, ATV 1pt/all others Stations outside MD, DC work MD, DC only. MD. DC stations work everyone	For Stations outside MD. DC: Total of Maryland counties, city of Baltimore and DC regardless of band For MD, DC stations: Above, plus 49 other US states, Canadian provinces, territories and Labrador, DXCC countries regardless of band.	QTH Entrty Categtory	"standard" (Single Operator All Bands) QRP Mobile YL Club Novice/Technician class	1 Sept Box 52 Hagerstown MD 21741 USA. Include SASE with your log
SARTG RTTY (Sweden)	00-08Z 19 Aug 16-24Z 19 Aug 08-16Z 20 Aug	80-10M RTTY	5pt/VE 10pt/NA 15pt/DX	DXCC Countries + Australia/Canada/USA Call areas	RST Ser#	Single Op: All bands, Single band Multi-op, singletx	10 Oct SM4CMG
South-East Asia Net SSB	0000Z 19 Aug 2359Z 20 Aug	160-10M SSB	1pt/QSO	3 mult pts for SEANET countries: A4 A5 A6 A7 A9 AP BV BY DU EP HL HS JA JD1 JY KH2 P2 S7 VK VQ9 VS6 VU V8 XU XV XW XX9 YB ZK ZL ZM ZL6 ZL9 3B6/7 3B8 3B9 4S 4X 8Q7 9K 9M2 9M6/8 9N 9V		Single Op: All bands, Single band Multi-op, singletx	31 Oct 9M2FK; Box 13 10700 Penang MALAYSIA
Keymen's Club of Japan Contest	1200Z 19 Aug 1200Z 20 Aug	160-10M CW	1pt/QSO	Japanese districts (62) on each band Japanese stns will send a two-leter district identifier in the exchnage.	RST and two-letter continent identifier (ie. NA)	Single Op all bands only	16 Sep JA1DD or e-mail to VYL05350@niftyserve.or.jp
Canadian and American Islands Contest	1700Z 19 Aug 2300Z 21 Aug	Rules Unclear, probably 80-10M CW & SSB	5pt/Island stn 1pt/mainland	Provinces, Territories and US States (unclear, but probably count once regardless of band)	RST QTH	Island stations; Island "rovers"; non-Island stations: SWL (Note: Stations not on islands may only work island stns for credit. SWLs may only log island stations.)	15 Sep VE6VK
New Jersey QSO Party	2000Z 19 Aug 0200Z 21 Aug 0700-1300Z off time for all	160-2M CW & SSB	3pt/QSO	NJ counties (21) count once, regardless of band	RST Ser# QTH	Single Operator Novice/Technician Mobile	18 Sep PO Box 528 Englewood NJ 07631-0528
NA QSO Party SSB (NCJ)	1800Z 19 Aug 0600Z 20 Aug	160-10M SSB	1pt/QSO	Canadian Call areas, US States, other NA countries	Name QTH	Single Op; Multi-op, twotx All entrants must run 150w or less	1mo. K8CC
TOEC Field Contest CW (Sweden)	1200Z 26 Aug 1200Z 27 Aug	160-10M CW	1pt/NA 3pt/DX 3pt/any mobile	Total of Maidenhead "Field" locators. The first two letters of you grid square are your "Field".	RST + Grid square (ie. FN25)	Single Op: All band, Low power, Single band Multi-op: Single ormulti-tx Single ops may not use PacketCluster	1mo. Box 2063, S-831 02 Ostersund Sweden
Hawaii QSO Party	1600Z 26 Aug 2200Z 27 Aug	160-Microwaves CW & SSB	1pt/SSB QSO 2pt/CW QSO	For stations outside Hawaii: HI counties (5) For HI stations: US states, Canadianprovicnes, DXCC countries Mults count once regardless of band.	RST QTH	Single Op & Single Op QRP: CW only, SSB only, mixed mode Multi-op SingleTx: CW only SSB only, mixed mode Multi-Multi: mixed mode only	30 Sep 1056 Kapau St Kailua HI 96734 Email starcommradio@juno.com
All Asia SSB (Japan)	0000Z 2 Sep 2359Z 3 Sep	160-10M SSB	1pt/20-10M QSO 2pt/80M QSO 3pt/160M QSQ Work Asia only	Asian prefixes worked on each band	RS Age (YLs may send 00)	Single op: All bands, Single band Multi-op: Single orMulti-tx	30 Sep Box 377 Tokyo
LZ DX (Bulgaria)	1200Z 2 Sep 1200Z 3 Sep	80-10M CW	6pt/LZ 3pt/DX 1pt/NA	ITU Zones worked on each band	RST ITU Zone	Single Op: All bands, Single band Multi-op, singletx; SWL	1mo. Box 830 1000 Sofia
North American Sprint CW	0000Z 3 Sep 0400Z 3 Sep	80-20M CW	1pt/QSO	Canadian Call areas, US States, other NA countries	Ser# Name QTH	Single op all bands only; Entrants may combine their scores to form a "team".	1mo. N6TR
Michigan QRP Club Labor Day CW Sprint	2300Z 2 Sep 0300Z 3 Sep	160-6M CW	5pt/ QSO with member 4pt/DX 2pt/USA and Canada	US States, Canadian Provinces and Territories, DXCC countries Total score x1.25 if you used a home-made TX or RX, x1.5 if all home-brew gear	RST QTH MI-QRP membership number	A- 250mw or less B- 250mw to 1w C- 1w to 5w D- Over 5w out	30 days N8CQA
European DX SSB (Germany)	0000Z 9 Sep 2359Z 10 Sep	80-10M SSB	1pt/Eur 1pt/QTC QTC: reports of previousQSOs Time:Call:Ser#	WAE Countries worked on each band. x2 on 10/15/20 x3 on 40M x4 on 80M	RST Ser#	Single Op: All bands, Single band Multi-op: Single ormulti-tx All entrants may usePacketCluster	15 Oct Box 1126 D-74370 Sersheim Germany
ARRL VHF QSO Party	1800Z 9 Sep 0300Z 11 Sep	50MHz to microwaves	1pt/50 or 144MHz QSO 2pt/220 or 432MHz QSO 3pt/903 or 1296MHz QSO 4pt/above 2304MHz Don't use 146.52 or anyrptrs	Grid squares worked on each band	Grid Square	Single Operator:Multi-band, single band, QRP portable (max 10w out) Rover (single ormulti-op, operating from at least two grids) Multi-op; LimitedMulti-op (max 4 bands)	30 days ARRL or e-mail to SeptemberVHF@arrl.org
North American Sprint SSB	0000Z 10 Sep 0400Z 10 Sep	80-20M SSB	1pt/QSO	Canadian Call areas, US States, other NA countries	Ser# Name QTH	Single op all bands only; Entrants may combine their scores to form a "team".	1mo. K7GM
Scandinavia CW	1500Z 9 Sep 1800Z 10 Sep	80-10M CW	1pt/QSO: Work JW JX LA OH OJ OX OY OZ SM TF	Scandianavian prefixes worked on each band	RST Ser#	Single Op. All bands, QRP Multi-op singletx	31 Oct EDR
YLRL Howdy Days (Women hams only)	1400Z 16 Sep 0200Z 18 Sep	80-10M CW , SSB, RTTY	2pt/QSO with YLRLmbr 1pt/QSO with others	None	RST	Single Operator only	30 days K0JFO
QCWA QSO Party	1900Z 16 Sep 1900Z 17 Sep	160M- UHF+	1pt/SSB QSO 2pt/CW QSO	QCWA Chapter, CanadianProvinces&Terrs, US States, DXCC countries count once on each "band". Rules allow for 15 "bands": 160M, 80CW, 80SSB, 40CW, 40SSB, 20CW, 20SSB, 15CW, 15SSB, 10CW, 10SSB, 6M, 2M, 135cm, 70cm and beyond. A QSO w/W2MM counts three multiplier points.	1. RST 2. Year first licensed 3. QCWA Chapter# or Prov/Terr. State or country	QCWA members, QCWA non-members Novices	30 days W4BK
Atlantic QSO Party (Canada)	0000Z 17 Sep 2359Z 17 Sep	160-10M CW and SSB	1pt/QSO NB/NF/NS/PEI work everyone; other work only Mar and NF	Maritime counties and Newfoundland federal ridings. Mar and NF stations also countProvs/Terrs, US states and DXCC countries once, regardless of band.	RST QTH	Single op High Power & Single op Low Power: Mixed Mode, CW only, SSB only Multi-op High Power &Mutli-op Low Power: Mixed Mode; CW only, SSB only	30 days LCARC, Box 6552 Stn.B Saint John NB E2L 4R9 CANADA

Addresses: CQ - 25 Newbridge Rd., Hicksville NY, 11801 USA. ARRL - 225 Main St Newington CT, 06111 USA. Callsign - Callbook Address
Bands: The 30, 17 and 12m bands are never used in any contest. Please confirm the dates of these events on thenet at or http://www.sk3bg.se/contest/

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CALIFORNIA

The Golden Empire ARS Swap-meet, will be on 05 Aug., at the Chico State University Farm Pavilion. Admission: FREE. Table: $5. Breakfast, door prizes, VE exams. For more info: Ray Watkins, KO6TW, 530/865-9623. Email: ko6tw@w6rhc.org.

COLORADO

The Denver Radio Club Hamfest 2000 will be on 20 Aug., starting at 8:30 a.m., at the Jefferson County Fairgrounds (Golden, CO). Admission: $4. Table: $10/$12. VE exams, vendors, ARRL forum, swapfest. Talk-in: 145.49(100 Hz). For more info: Ron Taylor, K0HRT, 1552 S. Yank St., Lakewood, CO 80228-3761. Phone: 303/989-3978. Email: k0hrt@arrl.net. Website: http://www.qsl.net/w0tx.

ILLINOIS

Western Illinois ARC - Swapfest 2000 on 12 Aug., at the Eagles Alps Grounds (3737 N 5th St., Quincy, IL). Admission: $5. Tables: 1 for $10, 2 - $16, 3 - $21. Tailgating: FREE. VE exams @ 12:30 p.m. Talk-in: 147.63/147.03 MHz. For more info: Jim Funk, N9JF jfunk@adams.net; http://www.qsl.net/w9awe/swapfest.html.

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Hamfesters Radio Club, 13 Aug., at Will County Fairgrounds (I-57 to exit 327 east, Peotone, IL). Admission: $5. Table: Indoor $15; Outdoor flea market FREE. Set-up: 1 - 11 p.m. Sat. For more info: Christine Mack, K9RFY, 124 N. York Rd, PMB#164, Elmhurst, IL 60126. Phone: 708/358-1786. Email: christine1@mediaone.net.

INDIANA

Greentown, Indiana Hamfest, 13 Aug., starting 8 a.m., at the Greentown Lions Club Fairgrounds (Greentown, IN). Admission: $4 advanced, $5 at door. Tables: $8. Tailgating: $3. Set-up: Sat. 6 - 8 p.m.; Sun. 6 - 8 a.m. VE exams @ 8:30. Talk-in: 146.91. For more info: L.B. Nickerson, K9NQW. Phone: 765/668-4814. Email: ka6nqwnick@netusa1.net. Website: www.netusa1.net/~ka6nqwnick/greentown.htm.

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The Land of Lakes ARC Hamfest will be on 06 Aug., at the Steuben County 4-H Park(corner of 200 W & 200 N, exit 150 off of I-69). Admission: $3 advanced, $4 at door. Tables: Indoor $8, Trunk $2. Set-up: Sat. Aug 5th 3-10 p.m. Talk-in: 147.180(131.8 tone). For more info: Bill Brown, WD9DSN, 905 W. Parkway Dr., Pleasant Lk, IN 46779. Phone: 219/475-5897. Email: sharon.l.brown@gte.net.

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The La Porte ARC Summer Hamfest will be on 27 Aug., from 7 a.m. - 1 p.m., at the La Porte County Fairgrounds. Admission: $5. Tables: $10. Tailgating: $2. Talk-in: 146.52, 146.61(-) PL 131.8. For more info: Neil Straub, WZ9N. P.O. Box 30, La Porte, IN 46352. Phone: 219/324-7525. Email: nstraub@niia.net. www.qeocities.com/siliconvalley/byte/1653.

KENTUCKY

Bluegrass ARS's 2000 Central Kentucky ARRL Hamfest & Computer Show, will be on 20 Aug., at the National Guard Armory (Lexington, KY.) Admission: $5 advanced, $6 at door. Table: $15 before 09 Aug, $25 after 09 Aug. Tailgating FREE with admission. Set-up: 6-8 p.m. Sat., 6-8 a.m. Sun. VE exams, forums, vendors & flea market. Talk-in: 146.760-. For more info: John Barnes, KS4GL 606/253-1178. Email ks4gl@juno.com. or send SASE to him at 216 Hillsboro Ave., Lexington, KY 40511-2105.

MASSACHUSETTS

The Mohawk ARC Hamfest, 13 Aug., at the Athol/Orange Elk Hall (92 New Athol Rd., Orange, MA). Admission: $3. Table: $8 advanced, $12 at door. Talk-in: 145.370, 146.58(simplex). For more info: John Dould, AE1B, 22 South Athol Rd., Athol, MA 01331-2722.

MISSOURI

The Central Missouri Amateur Radio Expo & Electronics Marketplace, 26 Aug., from 8 a.m. - 12 p.m., at the National Guard Armory. Admission: $4. Tables: $10. VE exams, forums. Talk-in: 146.76(-). For more info: Dewey Bennett, WM0H 573/445-7030. Email: dbenne01@coin.org.

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St. Charles ARC Hamfest 2000, 27 Aug., from 6:30 a.m. - 1 p.m., at Blanchette Park (St. Charles, MO). Admission: FREE. Tables: Outside Flea Market $8, Inside $15. Forums available. Talk-in: 146.670(-). For more info: Ken Fieser 314/428-4383. Email: kfieser@aol.com. Website: http://www.qth.com/wb0hsi/

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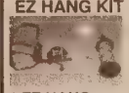

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NEBRASKA

The Ak-Sar-Ben ARC Flea Market, will be held on 27 Aug., at the Millard Social Hall(1/2 mile south of I-80 on Hwy 50(exit 440). Admission: $1. Table: $7 advanced, $10 at door. There will be door prizes. For more info: Gerry Gross, WA6POZ, PMB 142, 643 N 98th St., Omaha NE 68114-2342. Phone or FAX: 402/891-8421. Email: wa6poz@arrl.net.

NEW MEXICO

The Pecos Valley ARC's Rosewell Hamfest 2000 will be held on 5 Sug., at the Rosewell Civic Center. Admission: $5. Tables: $8. There will be door prizes, demos, vendors, and lots more. For more info: Vernetta, 1604 Tulane Dr., Rosewell, NM 88201. Email: kc5wka@dfn.com. Phone: 505/627-7777.

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Duke City Hamfest, 26-27 Aug. at the Rio Rancho National Guard Armory(4001 Northwest Loop). Open Sat., 8 a.m. - 5 p.m.; Sun., 8 a.m. - 1 p.m. Admission: FREE. Tables: $12(no power). $17(w/ power). Tailgating $5. VE exams, forums. Talk-in: 145.33- (100 Hz) & 444.00+ (100 Hz). For more info: Marcus Lieberman, KM5EH, 2300 Hurley Drive NW, Albuquerque,

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Hamfests — August

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NEW YORK

The Yorkers ARC Hamfest & Computer Show, 27 Aug., from 8:30 a.m. - 2 p.m., at Saunders High School(145 Palmer Rd., Yorkers, NY). Admission: $5. Tables: $15 advanced, $20 at door ($10 add table). Prizes, food available(FREE coffee). VE exams(9 - 11 a.m.). Talk-in: 146.265/865. For more info: John 914/963-1021, or Paul 914/237-5589. or Email: w2yrc@hotmail.com.

OHIO

The Warren ARA Hamfest, 20 Aug., at the Trumbull Campus Kent State University(Warren, OH). Admission: $5. Tables: Outside $3, Inside $8. Talk-in: 443.000. For more info: Renee McCaman, KB8SVF 330-755-2433. Email: mccaman@cboss.com.

PENNSYLVANIA

The Juniata Valley ARC Hamfest & Antique Radio Swap Meet, 05 Aug., starting at 8 a.m., at the Decatur Twonship Fire Co. Grounds. Admission: $2(XYL, Kids FREE). Tables: $10, w/ electric $12. Tailgating: $5. Talk-in: 146.910. For more info: Richard Yingling, WB3COB 717/242-1882.

WASHINGTON

The Lower Columbia ARA(W7DG) will sponsor a Ham Radio, Computer, & Electronic Equipment Swap Meet, which will be on 19 Aug, from 9 a.m. - 1 p.m., at the Cowlitz Expo Center(Longview, WA). Admission: $4. Table: $16. Tailgating: $6. Set-up: Fri., 5-9 p.m., Sat., 6-8:45 a.m. Talk-in: 147.26(+), PL 114.8. For more info: LCARA Swap Meet, P.O. Box 906, Longview, WA 98632. Bob, KB7ADO; 360/425-6076(evenings). Email: kb7ado@aol.com. Website: www.qsl.net/nc7p/.

•

The Spokane Hamfest, 5-6 Aug., at the University High School(Spokane, WA). Admission: $5. Table: $10. VE exams Sun. 8 a.m. - Noon. Seminars, fox hunt, Prizes, Bingo, etc. Talk-in: 146.52, 147.24(+). For more info: Thom Kembel, K7QFZ 509/659-0730. Email: tckembel@agretel.net. Website: http://www.iea.com/~n7utg.

WEST VIRGINA

Tri-State ARA Hamfest & Computer Show, 12 Aug., at the Veteran's Memorial Field House, 2590 5th Ave.(Huntington, WV). Admission: $5. Table: $8 advanced, $10 at door. Forums, VE exams, prizes. For more info: Dwight Smith, WB8JPJ 817 West 13th St., Huntington, WV 25704. Phone: 304/522-7865. Email: tara.amateur.radio@juno.com.

WISCONSIN

Marshfield Area ARS's Annual Picnic, 06 Aug., at the Wildwood Park(Marshfield, WI). Starting around 11 a.m. It's a potluck and swapfest. Talk-in: 147.180. For more info: Guy Boucher, KF9XX, 107 West 3rd St., Marshfield, WI 54449. Phone: 715/384-4323. Packett: KF9XX@W9IHW.E5.AI.WI.USA.NA. Email: guyboucher@tznet.com.

KV4FZ says he'll go to Supreme Court to keep license

Embattled Amateur Radio licensee Herbert L. Schoenbohm, KV4FZ, says he'll petition the U.S. Supreme Court in an eleventh-hour effort to retain his license. Schoenbohm told the ARRL that he plans to ask the high court to grant a writ of certiorari, calling on the justices to request the record of his case from the U.S. Court of Appeals for review.

Schoenbohm, of Kingshill, Virgin Islands, has until early August to file, but he's not optimistic that his strategy will succeed. "But, hope springs eternal that someday someone will see this for what it really is," he said.

Schoenbohm claims he's arbitrarily being singled out for especially harsh treatment on the issue of character, and the Appeals Court did not have the advantage of all the facts. The Appeals Court recently turned down Schoenbohm's request for a rehearing by the full bench after rejecting his appeal of the FCC's decision to not renew his Amateur Radio license in February. "I'm not so sure 'character' is something the FCC should be judging for a hobby type of license," he said. Schoenbohm pointed out that the FCC is not challenging his commercial tickets, just his Amateur Radio license.

Schoenbohm's call sign no longer appears in the FCC database, but he has been permitted to continue operating as KV4FZ during his appeals. Legal observers share Schoenbohm's assessment of his chances before the U.S. Supreme Court. Assuming his petition is turned away, the FCC would send Schoenbohm an official, written notification that he no longer may operate. If Schoenbohm wins a review, however, his case would not be heard until the court's next term, which begins in October. — *ARRL Letter*

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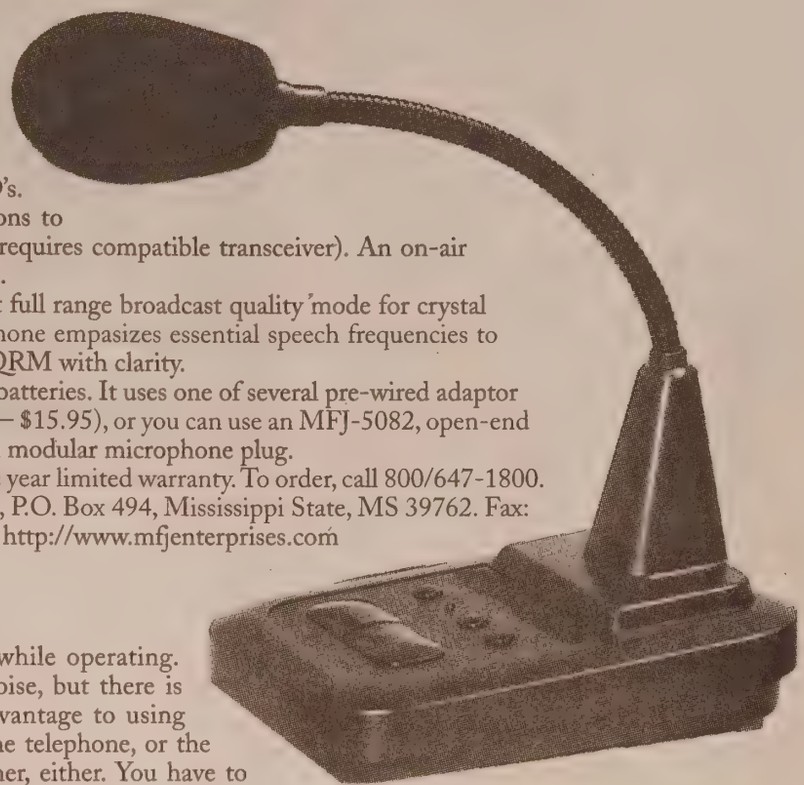
MFJ-297 Desk Microphone



Looking for a low cost, quality microphone for your rig? The MFJ-297 Desk microphone may be just what you're looking for. It's a professional-grade microphone designed for Amateur Radio communications where speech intelligibility makes the difference.

This microphone features convenient SoftTouch™ momentary and locking PTT switch for fast contesting or long-winded QSO's. Frequency up and down switches allow simple one finger opeations to instantly tune your rig and operate PTT from your microphone (requires compatible transceiver). An on-air LED lights when transmitting and flashes during receive operation.

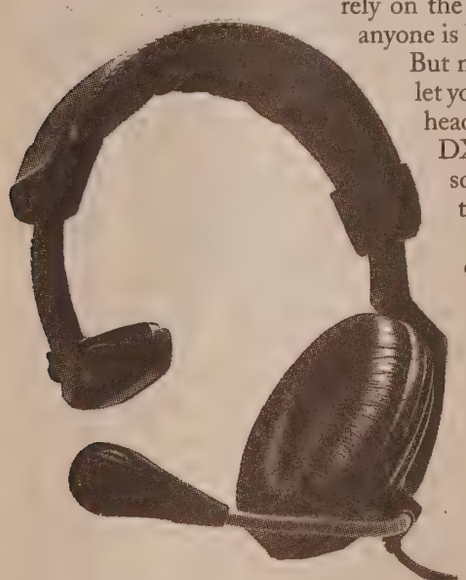
You can select either SSB mode or powerful DX punch or select full range broadcast quality mode for crystal clear FM/AM operation. MFJ's unique frequency tailored microphone empasizes essential speech frequencies to improve intelligibilty. Your voice literally busts through noise and QRM with clarity.

This compact unit has an 11 inch flexible boom and uses 2 "AA" batteries. It uses one of several pre-wired adaptor cables (MFJ-5397, "I" for Icom, "K" for Kenwood or "Y" for Yaesu — $15.95), or you can use an MFJ-5082, open-end microphone cable, or the MFJ-5628, open-end cable with an 8-pin modular microphone plug.

All of these MFJ products feature the MFJ *No Matter What*™ one year limited warranty. To order, call 800/647-1800. For more information, contact MFJ by writing to: MFJ Enterprises, P.O. Box 494, Mississippi State, MS 39762. Fax: 662/323-6551; e-mail mfj@mfjenterprises.com or see the web site: http://www.mfjenterprises.com

MFJ-394 Boom-mic headphone

If you are like me, I enjoy using a good set of headphones while operating. Not only does it let me hear signals without the background noise, but there is much more clarity while using a really nice set. But, the disadvantage to using current headphones is that they cover both ears. You can't hear the telephone, or the doorbell! When the XYL sneaks up behind you, you can't hear her, either. You have to rely on the reflection off the face of your HF rig to know if anyone is behind you.



But not anymore! The new MFJ-394 single ear headset let you hear the signals, and hear your surroundings. This headset is designed for hands-free operating, contesting, DXing, traffic nets and mobile operation. Padded with soft leatherette cushioning, this headset gives you total comfort with 3/4 inch ear padding.

The headset frequency response is enhanced for communications to bring out speech fidelity that you never knew existed. Signals never sounded so crystal clear!

The flexible boom lets you position the microphone comfortably at an optimum distance to minimize undesirable silibant sounds. MFJ's frequency tailored microphone element lets you bust through noise and QRM.

The unit comes with a extra long cord thats over nine feet long. The cable has a standard 1/4 inch jack for the headphone and 3.5 mm jack for the microphone. Build your own adapton or use one of MFJ's pre-wired adaptors to match your transceiver. (Order MFJ-5396 Y/K/I, pre-wired adaptors for your rig — $15.95)

Suggest retail price of the MFJ-394 Boom-mic headphone is $74.95.

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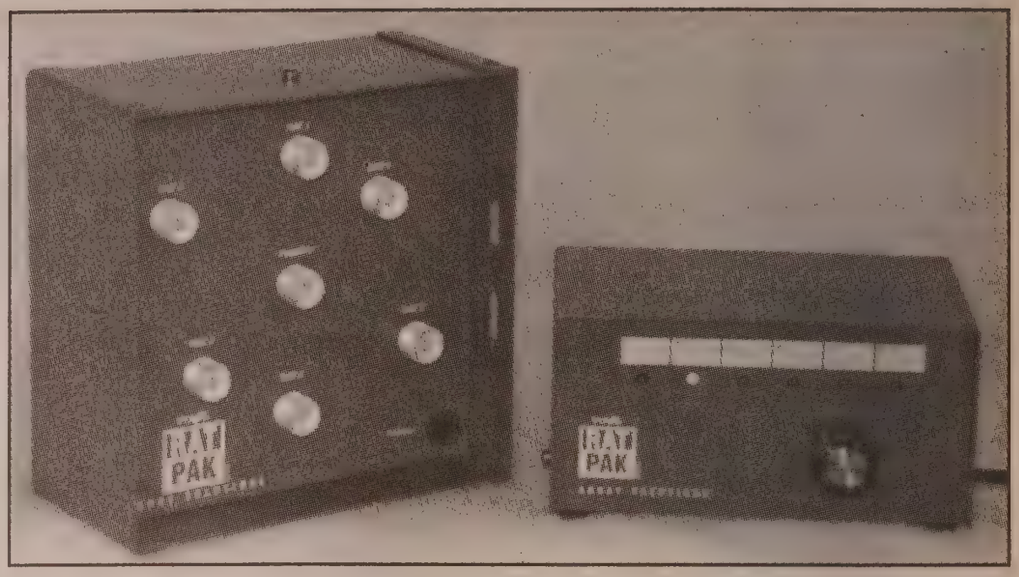
Order MFJ-93xxK for a kit (substitute the desired band for the xx) at $99.95, or the MFJ-93xxW for a wired and tested unit.

Array Solutions RATpak antenna switch

Array solutions has introduced a new antenna switch to round out its family of antenna switching and phasing devices. The New RATPak short for remote antenna switch was introduced at the Dayton Hamvention.

Jay Terleski, WXØB, president of Array Solutions said, "This device is offered to the HF DXer or contester to give a better choice for remote switching. We have designed it to reduce interference to other stations in a contest environment, and to be able to take abuse, unlike other less expensive switches on the market. This unit is a derivative of our very popular SixPak Antenna switch, which additionally can switch two radios to six antennas. We mean it when we say this is the last antenna switch you will ever have to buy!"

The RATPak features the ability to connect six antennas to one feed line, and is housed in an all-aluminum housing that's weather and RF proof. It's built using Micro-Strip PCB architecture, heavy-duty open frame RF relays.



The LED contol box is easy to see, and you can write on the face or use labels to indicate antenna selection. The unit is controllable with all automatic band decoders currently on the market.

SWR is flat from DC to 6 Meters, and the unit can handle 5 KW CCS and & .5kW ICAS. It can be modified to 12 volt operation.

For further information, write Array Solutions, 350 Gloria Rd., Sunnyvale, TX 75182, or call 972/203-2008. The company has an excellent web site at: http://www.arraysolutions.com.

UK church bells

The Brickfields Amateur Radio Society on the Isle of Wight is helping to preserve the traditional sound of village church bells by operating a series of Special Event Stations from three bell towers during the summer, in support of the Isle of Wight Church Bell Preservation Society. Each station is being sponsored locally, based on the number of radio contacts made. An award certificate will be available.

The three stations will use the callsigns GB4BP, GB6BP and GB8BP, one of which will operate on the first Saturday of each month from May to October in callsign sequence. Each bell-tower station will be on the air for six hours and the Award may be secured for 2-way logged contacts and SWL reports involving all three stations. Contacts will also provide points for the Isle of Wight County Award, the RSGB Islands on the Air programme as EU 120, and the Worked All Britain 48 and 58 squares.

A special commemorative card will be available. The QSL cards incorporate pictures of all three bell towers and will be sent via the bureau. Return cards are not specifically requested, but may be sent to the club callsign GX0BAR. — *G4NJH, Newsline*

K I-Phone repeater link

The VK6RTH repeater in Perth Australia is now linked to the Internet daily from 1200 to 1400UTC. Using I-Phone, it connects to the GB3US machine located at the University of Sheffield in the U-K. — *Q-News, Newsline*

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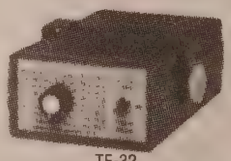

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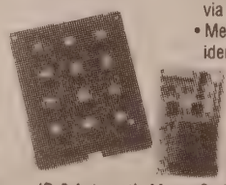

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VE Exams

As a service to our readers, ***Worldradio*** presents a feature listing of those VE exams, times and locations which are sent to us. Please remember that our deadline for publication is three months in advance. For example, if your VE group is scheduling an exam for December, please have the information to us by mid-September. ***Worldradio***, 2120 28th St., Sacramento, CA 95818. Please mark the envelope "VE Exams." List the location (City), any information examinees should have (advance registration, etc.) and the name and telephone number of a person to contact for further information. Examinees should bring their original license (along with a photo copy), two forms of identification (at least one should be a photo), and required fee.

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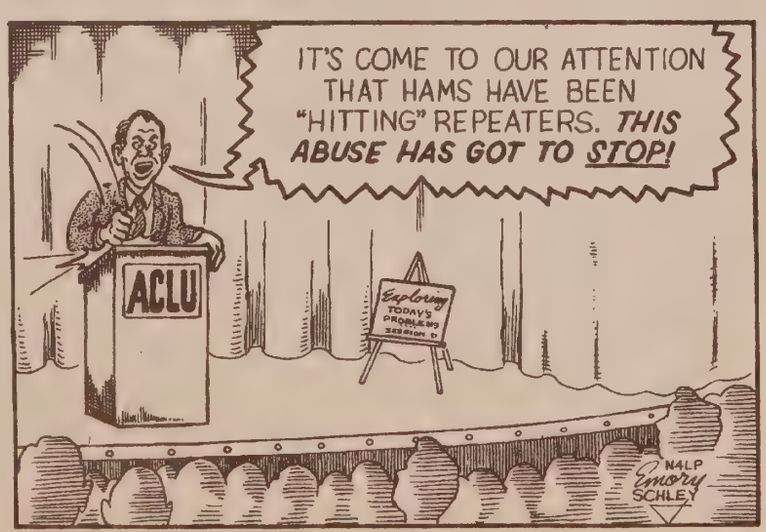

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Papua New Guinea approves 5 wpm

Licensing authorities in Papua New Guinea have approved full HF access for Papua New Guinea "K call" holders. The move effectively gives any qualified Technician who can pass a 5 wpm Morse test full HF access, as had been the case earlier with 10 wpm qualifiers. — *P29KFS, Q-News, ARRL Letter*

South Pole communications improve

Ham radio is no longer the only means of recreational communications to Antarctica. For decades, scientists stationed in this frigid southern latitude have depended on Amateur Radio to talk with loved ones back home. But that could soon be a thing of the past as the South Pole telecommunications network gets an upgrade to permit high speed Internet traffic.

While the geostationary satellites above the Equator cannot see either pole, a new breed of birds using inclined orbits can. And now these satellites are being used to exchange both voice and data for hours at a time between the poles and other latitudes. And the scientists on Antarctic assignment are saying they are able to enjoy more privacy and longer communications back home than they could using Amateur Radio. — *W5YI, Newsline*

"Hamoeba" wins QRP design contest

Duncan Walters, G4DFV, was the winner of the "1 V Challenge" at the "Four Days in May" QRP gathering held in conjunction with the Dayton Hamvention. The Hamoeba is a 100 mW "single-cell" (get it?) CW transceiver. There were four entries in the "1 V Challenge" —to design and build a transceiver that runs off no more than a D cell. No voltage upconverters were allowed. Duncan did not make it to Dayton. He sent his entry in with George Dobbs, G3RJV. — *W4QO, QRP ARCI, ARRL Letter*

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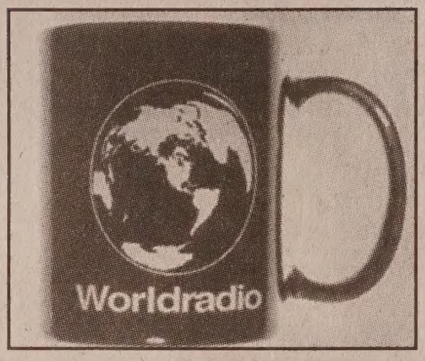

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Jamboree on the air, 1999

Don Village, K6PBQ

The 42nd Jamboree On The Air was held on 16 and 17 October 1999 and this year I had three groups visit my shack — Girl Scout Troop 433, Brownie Troop 1025 and Bear Den Pack 8 of Troop 433. This marks the seventh year I've had them over to my home QTH. I've had a very good response by having them come to my home rather than the club station.

This year, I had 13 Scouts and adult leaders visit my shack. We were able to contact VE6ADA in Cold Lake, Alberta, Canada, KB4YHB in Mt Veron, MO., and KØASH, in Cape Coral, FL. The girls were able to chat with Kathleen, a Girl Scout in Cold Lake, and exchange e-mail addresses. The Scouts mostly talked about their Scouting activities and sports interests.

Don, K6PBQ, has made JOTA an annual tradition at his home QTH.

I also set up a couple of code practice oscillators for them to learn how to send their names in Morse code. They really enjoyed code as a different form of communications.

Operating during the Jamboree On The Air is great fun and the Scouts enjoy it as much as I do. I look forward to it every year. All you need is to locate a local Scouting group (listed in your phone book under Boy or Girl Scouts of America), and you can join in on the fun for Jamboree On The Air, 2000.

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